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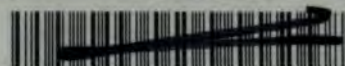
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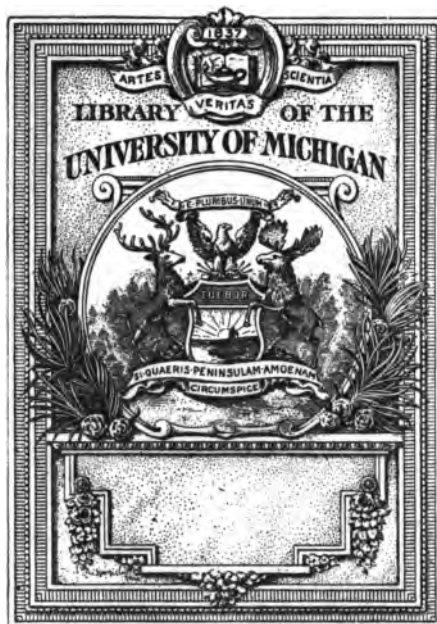
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ERRATA.

DR F. DUFFY's Article, January Number.

On page 2 line 6, medicine instead of mediocre.

" " 4 " 21, existing for exciting.

" " 7 " 7, said he for Saul.

M. J. DeROSSET, M. D.;
THOMAS F. WOOD, M. D., } Editors.

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ORIGINAL COMMUNICATIONS.

NATURE AND USE OF THE MUSICAL FACULTY.

By F. DUFFY, M. D., Newberne, N. C.

The musical faculty, that is the ability to originate, make, or appreciate music, is one of the most curious and interesting in man. Interesting; not only in itself, on account of its unique character and the variety and degree of its development in different individuals, but also on account of its analogies. It may be taken as a standard of comparison for other existing, but far less demonstrable, faculties in man.

For instance, if we were required to choose a person having special qualifications for learning or appreciating music, it is likely that any one, having or lacking such natural qualifications in an eminent degree, would be readily known. On the other hand it is required to choose one with special natural qualifications for the exercise of some other function, these qualifications might not be so readily discernable, although in that respect individuals might differ as much in degree as in the musical sense.

Many are too apt to overlook the fact that, after giving due credit

to every other influential circumstance, men are chiefly what they are, on account of physical organization, which organization, of course, has its dependencies, and while great versatility is to be found in some individuals, most persons have their special adaptations.

In music, as in other things, the vast majority of mankind would be classed as medicine; it is associated with other faculties in every degree of admixture, its moderate, or even high development, not indicating either inferiority or excellence of natural capacity in other respects; although the exclusive exercise of this faculty will, as perhaps with any other, develop it to such an extent as to dwarf or obscure other faculties not less pronounced by nature. Music has her prodigies, some of whom, almost destitute of other mental endowments, excite their wonder of mankind, not only by the imitation of sounds and faultless rendition of the musical conceptions of others, but also by their own creations. On the other hand there are those who are destitute of the musical sense, "whose souls are not moved by sweet melody of sound," who have no mental enjoyment of the classic higher grades of music, and feel no emotional excitement from that essentially more musical style of music which appeals to the senses rather than to the intellect of man. Such have been stigmatized as "fit for treason strategem and spoils." Perhaps the number of persons who are totally destitute of the musical sense is not greater than the number of musical prodigies, who are destitute of other endowments. There being every intermediate grade between these two opposite conditions, and, drawing a line of mediocrity there would, we may infer, be as many of the different grades on the one side as on the other, just as has been found in the measurements of the human body, and the estimations of human intellect, (*Laws of Hereditary Genius* by Francis Galton) as shown by tables of statistics.

It will be observed that I have used the term "musical sense," and also that I have made a distinction between emotional and intellectual music, considering the emotional variety as essentially more musical.

It will, therefore, be well to discuss these terms and determine if such use and distinction is proper.

Every function of the human body, every vital phenomenon de-

pend upon the action of some organ or organs in single or in associated capacity.

Whether we consider, with Brown-Séquard, that the brain, for the most part, acts as a whole, or a unit, in the exercise of a variety of functions ascribable to it, or, with others, that it is an aggregation of organs, or parts, having localized functions, we know it to be the source of the intellect and the emotions. While there is much in favor of a localization of some functions and a positive difference in the motor and sensory ganglia of the brain this doctrine is often carried to an absurd degree. Thus "phrenologists" have been accustomed to mark circumscribed areas of the brain-surface, between which there is no anatomical division, as the seats of various faculties. So the musical faculty has allotted to it as a residence, a definite part of the brain, and is considered to be in proportion to the development of that part. If in fact, any particular part of the brain was only capable of musical perceptions, or any particular nerve was capable of transmitting only musical sensations, which is not, that I am aware, claimed by any, then we might speak of the special sense of music with as much propriety as of the sense of sight or hearing. The optic and auditory nerves, and their functions, can be clearly demonstrated; so there may be an anatomical musical apparatus, but, if so, it is so obscure, and its anatomical proportions so infinitesimal, as not to have been demonstrated.

Since we have no clearly demonstrated musical organ with a single function; we are only warranted in using the term in a conventional sense, referring to that capacity in man to appreciate musical sounds, whether with a special organ of the brain or, as is more likely, with that complex sensorium, which is the seat of other and varied emotions.

There can be no exercise of function without molecular change and perpetuation of function can only be maintained by molecular renewal of life in the organ which exercises that function, and if the same organ, or apparatus, is endowed with a variety of functions it must be that the function which is performed will depend upon the nature of the stimulus to which the organ or apparatus is subjected. A given sound, for instance, working a definite molecular change, attended by definite subjective sensations, these changes

depending on the peculiar organization of the individual, and the peculiar organization depending not only on nature but also on nurture. In the convenient formula of "nature and nurture" all influencing circumstances or conditions, are meant to be included, whether inherent quantities or external influences.

In this connection we may consider music as a therapeutic agent, not however until we have discussed some of its different varieties with reference to the use of the terms intellectual and emotional music. It is no fine drawn metaphysical distinction to consider the intellectual and emotional nature in man as essentially distinct.

While moderate mental and emotional processes are capable of being manifested at one and the same time, they are nevertheless measureably antagonistic, the exercise of the intellect having a restraining influence on the emotions, and the most exalted emotional states being wholly incompatible with the exercise of the full capacity of the intellect. The same ideas are conveyed by the use of the terms "Head and Heart," their often agreement and disagreement, and distinctive differences being alike freely acknowledged. An agent, or stimulus which is eminently capable of exciting or appealing to one of these functions, is correspondingly incapable of existing or appealing to the other. That class of music which requires intellect, and often a high degree of a particular culture to be appreciated in its grand harmonious combinations, is essentially different from those less complex melodies which excite the emotions without necessarily involving the intellectual faculties.

Music, which for its understanding and appreciation requires an elaborate programme, filled with the details of mythology, each succession of sounds representing a succession of actions or events, decidedly appeals to the intellect or the imagination; the emotions may be excited, but must necessarily be in subordination to those functions the exercise of which is necessary to the perfect comprehension of the piece.

Music is essentially emotional in its nature, and in proportion as any combination and succession of sounds lacks that quality it lacks its essential ingredient. To accept this definition we would perhaps be compelled to regard some brilliant compositions as non-musical, however much we might admire their successful mechanical execution; and to those who are incapable of feeling (on account of

sound) any emotional sensation, nothing is music. Can any other explanation than one in accordance with the above statements be given for the curious phenomenon of the intense pleasure experienced while hearing music in an almost unconscious state of sleep? That such is the case cannot be fully appreciated by all, some being too hard to awake, others too easy, and still others, there are, who are too deficient in the musical sense to appreciate music under any circumstances.

This phenomenon is somewhat like that of dreaming, differing however in being accompanied by a greater degree of consciousness, and in the heightening of the impression, whereas in dreaming we are not usually as much impressed as we would be by a realization of our dreams.

While a student at the University of Virginia I was often annoyed by a fellow student who would sing and play accompaniments on the banjo or guitar; the music was not particularly enjoyable, but the annoyance arose from the interruption to study; one night, being asleep, I was partially awake by the singing and playing of one of the customary tunes in the usual manner. Now, instead of being annoying, the sensation was delightful, and even afterwards the tune under all circumstances, was heard with more favor than before this occurrence. It is not that any sound is more agreeable under these circumstances, I am not aware that it is so of any unmusical sound, on the other hand the discomfort of many noises is very much intensified, while, being stupefied with sleep, the sensorium is capable of taking cognizance of them, but the reasoning faculties are held in abeyance. That certain faculties and organs do exercise an "inhibitory" or restraining influence over other faculties and organs, is, in one case at least, clearly demonstrated, viz. : the inhibitory influence of the pneumogastric nerve over the heart. It is the rule that a nerve supplying the part transmits to it a stimulus necessary to motility, or sensation, and the section of such a nerve is followed by a more or less complete loss of motion or sensibility in the part to which it is distributed; but section of the pneumogastric nerve fibres supplying the heart is followed by a more turbulent action of that organ. On the other hand when the nerve is divided, and an electrical current applied to it, it arrests the heart's action. The experiments of M. Onimus on the pneumogastric nerve would seem to throw a different light on its inhibitory function.

He says : "That an ordinary Faradaic current is interrupted from 30 to 35 times in a second, and that corresponds pretty well with the number of nervous shocks transmitted along special nerves so that striped muscles usually respond well to the stimulus ; but, that "automatic and rhythmically acting organs, require some numerical relations to be observed between their rhythm and the stimulus, or the effect will be perturbation instead of increase of function." He found, "that if the pneumogastric nerves were stimulated by a current, interrupted at long intervals, (16 to 18 shocks per second), no arrest of the heart's action took place ; when the excitations become too rapid they cease to provoke functional acts and become causes of perturbation"—*London Medical Record*, January, 1877).

The theory of the inhibitory influence of a process of reasoning, or of any other intellectual act, our musical emotions will accord very well with the above views, if they are accepted as correct. It may be that the musical emotions are not restrained by mental activity of every sort and degree, but, as automatic and rhythmically acting organs, according to M. Onimus, require some numerical relation to be observed, between their rhythm and the stimulus, to avoid perturbation, so to avoid a partial suppression of musical emotion, carefulness is requisite in the association or combination of ideas or thought and musical sound. A somewhat analogous case is that of the somnambulist who, while perfectly unconscious, performs with safety, dangerous feats which he could not perform in the full exercise of his faculties. (It is a perfectly analogous case when one faculty, or mental process, being in abeyance another is permitted to run, riot, as it were, in highly exalted action). The increased intensity of the pleasure of music while heard when almost asleep, or when but partially aroused from a profound slumber, would seem to be explainable in no other way than this, viz. : that the common sensorium, or special seat of musical consciousness, if there is one, is capable of being excited by the proper stimulus, to a much more highly exalted state when not under the inhibitory or restraining influence of any other faculty, or perhaps of a different sort of consciousness. This would seem to show that music in its nature is a sensation or an emotion, which is excited by a combination and succession of sounds, and, that while it

may be associated with reason, or a train of thought, as in the setting of words to music, such association has an inhibitory influence on the musical sense proper, and any additional emotion, arising from that source, is in its nature non-musical.

The earliest account given of music as a therapeutic agent is in the Bible, "David took a harp and played with his hand, and said he was refreshed and was well." The restoring power of music, to a mind troubled like Saul's, seemed to be well known to his attendants who advised that agent. My experience of the effects of music on myself is that, in addition to momentary enjoyment and refreshment, it is also capable of relieving pain. I have repeatedly been relieved by it of a peculiar, but not very acute headache, the result of mental wear and tear, and have learned when it comes on, to seek music for its beneficial effects under such circumstances.

Now, as the functional exercise of the brain and nervous system in general, is attended by certain waste products, phosphates, cholesterin, &c., if music affects the brain by relieving mental wear and tear, it must diminish such products, and probably has through the vaso-motor nerves some influence on the calibre of the minute blood-vessels, thereby making its physical impress on the system. Persons afflicted with grief, as from the death of a near relative, would often be much benefited by music, even when disinclined to submit themselves to any enjoyment; but, when they do feel an inclination for necessary recreation, they are often restrained by the arbitrary rules of society. A lady of delicate physical organization and strong emotional nature, draped in the black emblems of mourning, and debarred from the exercise and recreation now more than ever necessary to her well being, is in a condition to contract disease of the nervous system, which may effect, not only her life, but that of future generations.

Recent experiments with the insane on Blackwell's Island have shown a marked potency in music in ameliorating the condition of many who were subjected to its influence. According to report the company of insane seemed much happier after, than before, the experiment. Some talked much more rationally, and in others the frequency of the pulse was much reduced.

If music is in the slightest degree curative of insanity it must be much more potent as a preventive; since the first manifestations of,

and tendencies to, insanity are generally known to be manageable, while the long established cases baffle treatment. The close relation that exists between mental and emotional states and physical changes of the human organism is well known.

The hair will turn gray in a short time from excessive emotion, and mother's milk, from the same cause, it is said, has caused the death of their infants; organic disease of the heart is greatly aggravated and may be caused by mental depression or morbid excitement; the secretions of the body may be increased or diminished, congestions of the brain and other organs may, and do, occur from this cause.

Persons are even bereft of reason, suddenly and permanently from fright, or shock of some other kind.

On theoretical grounds any agent which can excite such pleasurable emotions, as music excites in all persons not destitute of capacity for its enjoyment, ought to rank high as a therapeutic agent, and still higher as a hygienic measure. If music will reduce the morbid frequency of the pulse it will also reduce excessive temperature, and so prevent the oxidation and destruction of the vital elements of the body; to this end, might it not be used in acute diseases with those persons to whom it is positively agreeable?

But its greatest usefulness would seem to be in counteracting morbid influences (which render persons less comfortable and more susceptible to disease) and in substituting livelier or more agreeable sensations. As there are many differences in the "nature and nurture" of different individuals, and consequent differences in their likes and dislikes, so no one musical formula could be adapted to the wants of all.

And, while our experience teaches us that certain styles of music are suited to persons of certain temperaments, there is no better guide than the unbiased expression of individual preference. The cravings of nature, and the promptings of individual appetite, are not to be considered as mere useless freaks, they are too often the expressions of real wants. Herds of animals went hundreds of miles to get to the salt-licks centuries before physiologists knew that without common salt, from some source, they would slowly but surely starve to death. Human impulses require rational governance, but if a man's impulse to eat when he is hungry, to

draw near to a fire when he is cold, or to seek the shade of a tree from the scorching sun, are acts tending to self preservation, how are we to consider his great disposition to hear music except as of the same nature? The particular style that best pleases him is most likely best adapted to his real musical wants. From lack of opportunity he may not know what that style is, but present necessity can only be supplied by taking him at his present degree of development. Grant that there is an absolute standard of excellence in music (outside of the capacity of any musical arrangement for exciting pleasurable emotions,) and still we would have to consider, in regard to its adaptation to the wants of any individual, its relative excellence, just as we would in the case of a food which is classed among those easy of digestion, but for which a given individual may have no desire, such a food to such a person would not be easy of digestion.

Let no music critic therefore in the pride of his higher culture and assumed better taste, condemn as frivolous and superficial those simple melodies and lively airs which are most universally adapted to the popular taste; as well might he order another man's dinner, or ask him to wear a shoe that did not fit him.

Nor should any one hesitate to express his preference for any particular style; would-be connoisseurs will only ask what is fashionable, and will, of course, assume to like it although it may be as incapable of exciting their musical sense as a game of chess or a mathematical problem.

A CASE OF "GANGRÆNOPSIS."

By HENRY G. PIFFARD, M. D., New York.

Surgeon to the Charity Hospital, etc.

Read at the meeting of the American Dermatological Association,
1878.

Sarah F., aged 1 year, was admitted to the Charity Hospital, April 15th, 1878. The child was accompanied by her mother, who was found to be suffering from constitutional syphilis. The child

exhibited the following lesions: ulcerations of tongue and lips, together with snuffles. There were also coppery plaques and tubercles disseminated over the vulva, buttocks and thighs.

The mother was placed on the protoiodide, and mercurial inunction was ordered for the child.

At my next visit to the hospital, two days later, I did not see the patient; but on the occasion of my next subsequent visit, three days afterwards, Dr. Culpepper (House Surgeon) called my attention to a gangrenous spot, an inch in diameter, involving a portion of the left *ala nasi* and the contiguous portion of the cheek. He stated that two days before, he discovered near the left ala, a small indurated nodule with an inflamed base. The surrounding tissues soon became red, glazed and infiltrated. Within eight hours after the discovery of the spot, it had assumed a black gangrenous aspect, which rapidly increased in area.

The mercurial inunction was ordered to be discontinued, and local applications of dilute nitric acid made instead, together with extra nourishing food, and hypodermic injections of quinine.

In spite of treatment the gangrene rapidly extended until it had involved nearly the whole of the face, and the child finally succumbed, April 28th, thirteen days after admission, and ten days after the first development of the gangrenous lesion. But one hypodermic injection of quinine was given, as a few hours after the injection its site became gangrenous.

Autopsy, (by Dr. Maxwell, Curator).—Length of body 28 inches, circumference of head 27 3/8th inches. Nose, upper lip and adjoining border of cheeks destroyed. The base of destruction presents a black, dry gangrenous appearance. At the border, a narrow zone of apparent demarkation; beyond this the adjacent tissues are greenish-black to the extent of an inch from border of destruction. Eye-lids and cheeks moderately edematous. Underlying the gangrene the malar bones and hard palate were found necrosed.

Head.—The skull bones, dura mater, sinuses, brain substance and vessels were normal.

Thorax.—Pulmonary pleuræ show here and there miliary subpleural hemorrhages. Posterior border of left lung shows a line of localized pleurisy overlying thick clusters of lobular pneumonia in the gray stage. Lower lobe of left lung almost completely con-

solidated by thickly set foci of lobular pneumonia mostly in the gray stage. A few of these have gangrenous appearance and odor. Upper lobe of right lung pale except base, where there are three patches of lobular pneumonia in red stage; lower lobe similar patches.

Heart.—Normal, cavities nearly empty; blood throughout the body thin—cherry-juice like.

Larynx.—Mucous membrane of epiglottis shows enlargement of the glands.

Liver.—Seven and a half inches in length, $4\frac{1}{2}$ inches in breadth, $2\frac{1}{4}$ inches in thickness, weight $15\frac{1}{2}$ ounces. General color, reddish, but in places yellowish white. The interstitial tissue, appears as streaks of pearly hue (interstitial hepatitis).

Spleen.—Weight 2 ounces, firm on section. Malpighian bodies large and yellowish in color. Trabeculæ enlarged.

Stomach, Pancreas and Kidneys.—Normal.

Mesenteric glands are enlarged to average size of a split pea.

Small Intestine.—Agminated glands throughout are swollen and pigmented. In lower portion of ileum some of Peyer's patches show individual lobules which are larger than others and have reddish color.

Colon.—Evidences of catarrhal colitis of moderate severity.

Remarks.—In times gone by, when mercury was more freely used than at present, cases similar to the one related were by no means excessively rare. This one, however, is the first that the writer has had the ill-fortune to encounter. As regards the etiology of this case but two hypotheses seem tenable. It was either malignant pustule or mercurial gangrene. Which of the two it was, the writer feels himself unable to positively decide, the probabilities, however, he thinks, are in favor of its having been a case of mercurial poisoning.

A Correction.—An examination of the cuts in the English edition of "Rest and Pain" satisfies us that the illustrations in Wood's Edition are fac similes and in no way inferior. By a slip also in our November number we put the price at \$2.00 a year when it should be \$12.00 We recommend our readers to subscribe to these books, feeling satisfied that they will find them *excellent and cheap*.

COUNTRY CLINQUES.

III—FRACTURE OF TIBIA AND FIBULA—PNEUMONIA— VENESECTION—AFTER TREATMENT OF FRACTURE —REMARKS.

BY A NORTH CAROLINA PHYSICIAN.

John V. æt. 24 years, an exceedingly robust man, weighing 225 lbs., in attempting to jump out of a wagon, sustained an oblique fracture of both bones of the leg, three inches above the malleoli. No other material being available an excellent temporary support was made out of an old gunny-bag and an armfull of hay. The fracture was reduced, the limb surrounded by a broad piece of the bagging, thick wisps of hay placed around this and confined by strips of the bagging. Patient was carried a mile or more in a wagon, and the limb needed no further adjustment when it was taken out of this dressing to be placed in a fracture box.

On the morning of the third day after the accident, patient complained of a cough which had troubled him during the night. It was tight and paroxysmal, the scanty expectoration being streaked with blood. He assured us that he was subject to such a cough, and had frequently spit up blood before. There was no increase of pulse-rate, no heat of skin, nor had he experienced any chillness. The lungs were carefully examined, with only negative results. A dose of comp. cath. pills was administered, and he was directed to take twenty drops of the wine of ipecac every two hours. At noon the cough was worse, pulse 90, respiration 20, temperature 99½°. Slight dulness and crepitation were found over the lower third of the right lung. The bowels had been well moved. Ipecac was continued. Ten grains of cinchonia sulphate were given—the dose to be repeated every four hours. When next seen at 8 P. M., pulse was 110, jerky and irregular, respiration forty-eight, skin cool to the touch, and temperature 101°. Breathing was labored—patient having to be supported nearly upright in the bed—face had a dusky hue, patient was drowsy and stupid. Sputa consisted of frothy bright blood. Dulness and crepitation were marked over the whole right lung, while with the harshened respiration, mucous râles, coarse and fine, were heard throughout the left lung. A mustard

plaster over the whole chest, afforded no relief. The median basilic vein was freely opened, and a quart or more of blood allowed to flow. The bleeding was only stopped upon patient's complaining of faintness and nausea. The effect upon the symptoms was immediately perceptible. The cyanosis disappeared, breathing was relieved, and the sensorium became clear. The pulse was not markedly affected, nor was respiration much decreased in frequency. Next morning the pulse was still 110, but firm and regular, temperature 101°, while respiration had fallen to 28. Dulness over the right lung had receded to the level of the fourth rib. Below this bronchial respiration was heard, above, there were moist sub-crepitant râles, and at the apex the vesicular murmur. The expectoration presented the ordinary characteristics of acute pneumonia. The left lung was clear. Six doses of 10 grs. having been taken, the cinchonidia was discontinued. Wine of ipecac was given *pro re nata* until recovery. Resolution was established on the fifth day.

Patient's limb was now enclosed in a plaster of Paris bandage. After remaining five weeks, this was removed, showing union of fibula, but considerable mobility of the fractured ends of the tibia.

Supporting the limb by $\frac{1}{4}$ inch binders' board, I directed patient to bear weight upon it. After three days, pain and swelling preventing further exercise, the limb was more securely supported, and patient put to bed. In three weeks mobility had ceased, and so much provisional callus was present, that patient was allowed to take gentle exercise. A roller bandage was used for several weeks longer on account of swelling of the unsupported limb. The result was firm bony union with gradual absorption of callus.

I have great faith in the efficacy of large doses of the cinchona salts, in all stages of pneumonia. Latterly in my practice, the cinchonidia has entirely superseded quinia, it being cheaper and giving equally good results. A few years ago I attended a patient for pneumonia of the lower two-thirds of the right lung. He had been previously affected by malaria, and on the third day of the disease, I found him in a congestive chill. Fortunately he was able to swallow, and there was no nausea. I administered 20 grs. sulph. of quinia, in an ounce of whiskey, and in an hour repeated the dose, supplementing the medicine with friction, mustard poultices,

hot bottles, &c. At patient's urgent request—reaction having now set in—one hour later I gave the third dose without the whiskey. Twelve hours afterwards, with the exception of moist, coarse râles over the affected portion of the lung, all symptoms of pneumonia had disappeared.

In the case before us, immediate action was necessary. One lung was completely overwhelmed by the inflammation, the other nearly paralyzed by œdema. The result will best answer any criticism upon the treatment.

Bleeding when practiced with the thumb lancet, is a most awkward performance. The vein slips from under the point of the instrument, if the attempt is made to cut cautiously, while a bold thrust jeopardizes the underlying artery. To my friend, Dr. J. F. Shaffner, of Salem, N. C., I am indebted for the following suggestion: When the vein is made prominent by compression of the arm above, the point of a narrow curved bistoury is thrust in a slanting direction, through the external parts and into the vein. By cutting outwards, the canal of the vein serving as a director, the opening may be enlarged at pleasure without difficulty or danger. By the same plan, in opening abscesses, &c., I am satisfied that I have saved my patients a great deal of unnecessary suffering. Cutting out must be less painful than cutting down, which momentarily increases the tension of inflamed tissues. A most unsurgical practice is that of splitting the finger to the end of the phalanx, in opening a felon. If the point of a narrow bistoury be thrust down to the bone, the deep fascia or periosteum may be readily divided to any extent, by simply inclining the point of the knife towards the extremity of the affected phalanx. The small external wound, (which can be enlarged, if for any reason this is preferred, as the knife is withdrawn), is ample for the escape of pus which has or may form, and entirely prevents the disgusting deformity of the finger, which is the result of the splitting process.

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We reply to Dr. B., of Boston, that as far as we can learn, there is but one homœopathic doctor in North Carolina, where there are about 1200 doctors.

SELECTED PAPERS.

THE YELLOW FEVER AT HAVANA—ITS NATURE AND TREATMENT.*

By CHARLES BELOT.

So many volumes have been written upon yellow fever, that it requires a certain courage to venture to augment their number. But I have determined to take up the pen, because I will in some measure present new results, based upon a constant labor of more than twenty years.

Placed at the head of the establishment founded by my father, a field of almost unlimited observation, where I have had the care on an annual average of a thousand patients, I have been able, after eighteen epidemics, to collect an incomparable body of facts, and to observe this disease in its most diverse forms. I have put under contribution the researches of my father, who has preceded me in this work. Seconded by my brother, we continue our study of the alterations of liquids, which will make the subject of a new memoir. As for autopsies, it is by the thousand I could count them. In my desire to tear her secret from nature, I have experimented with patients, who had scarcely ceased to live. In a word, nothing has been neglected to reach the discovery of the truth.

Yellow fever may be traced to three types: the continued, the remittent, and the intermittent; and in this division there is nothing arbitrary. Determined by nature, they have been ascertained by the most scrupulous observation, and I will prove that all the facts so group themselves without effort.

Havana, sadly renowned for its great number of victims to yellow fever, is situated in the 23d degree of north latitude.

Its harbor, one of the most beautiful in the world, presents a long and narrow entrance, which expands into a basin three leagues in circumference. Elevated hills protect it against the northern

*Translated by Col. John Scriven, of Savannah, Ga., who was so impressed with Dr. Belot's memoir that he has with commendable skill and diligence given the paper to the public, "feeling that humanity may claim any contribution, that could tend to prevent the recurrence, and alleviate the suffering, and diminish the fatality of the yellow fever epidemic, of which he was a witness in 1854 and 1876."

winds, but it is entirely exposed to the south. The city, built on the west side of the roadstead, has narrow streets; the houses are generally constructed with a ground floor on the level of the earth. In latter times, the spirit of speculation has increased the number of lofty houses; but it is in the commercial quarter, where are found in store great masses of food substances, easy to decay, that the greatest number of inhabitants are collected. New comers ordinarily lodge in the midst of this, which, in the rainy and hot seasons, becomes a centre of infection. The commercial quarter is placed in the lower part of the city, near the quays, where vessels lay, precisely where the sewers are voided, and their emanations received by seamen. After a heavy rain, these sewers are washed out, but the harbor is filled with putrefying substances, and this perfectly explains, why the greatest number of sick and the gravest cases come from vessels touching the quays, and from the stores and commercial houses situated in this quarter.

A single stream empties into the harbor. It brings the offal and blood of the shambles. On the bank of this stream are the gas works, which cast into it the offal of gas preparation. In this locality is situated the military hospital, large enough to accommodate fourteen hundred patients. It is not surprising, that this establishment furnishes in the statistics the greatest mortality.

The city is surrounded by walls and ditches. Exterior to these is the beautiful district where the streets are wide, the buildings are spacious, the provision stores less numerous. Here the sewers empty into the open sea. Although these houses may also be damp from the nature of the soil, it is evident, that the number of the sick diminishes, as the causes of paludal miasma are farther removed. The harbor and the city are surrounded by villages built on the heights, where the air being less vitiated, yellow fever is little known, and the cases presented there are contracted in the city.

Observing the topographical features of the harbor, one discovers, that all the anchorage grounds are not selected with a view to their healthfulness. Vessels which, through the ignorance of their captains, are sheltered from the east winds, are the first to incur sickness. On the side of the city situated to the west of the roads, on the north side, and in some places on the east side, there are wharves for the discharge of vessels, but everywhere else around

the harbor, the shore remains in its natural state. This shore, about two leagues in extent, is uncovered and exposed to the action of the sun by the fall of the tide, which at Havana is from two and a half to three feet. The police of the harbor is not well performed; while filth, dejections of crews, and even dead animals are thrown upon the shores by the movements of the waves.

In front of Havana is the village of Regla, situated on a point of land which projects towards the middle of the roadstead, and divided it into two harbors, one to the east and the other to the west of Regla. On the east side are magazines of molasses, from which an infectious odor is exhaled, and on the west side are wharves for steam vessels and immense warehouses for merchandise.

On the north side there are high hills, at the foot of which is the village of Casa Blanca, where are the coal depots for steam vessels and wharves for the construction and repair of vessels.

This point which is not refreshed by winds from the east, is fully exposed to the south; so this is the most unhealthy part of the roads.

Acclimation.—Man is cosmopolitan, but upon condition that he undergoes an alteration of individuality, which is termed acclimation. Often passing triumphantly through it, how often, too, he sacrifices his life in this ordeal!

As we descend toward the tropics, the temperature is elevated, the air is rarefied by that physical property by which gases are expanded by caloric; transpiration commences, the heat dilating the pores of the skin facilitates perspiration, the urinary discharge diminishes, the veins bear a thicker liquid to the liver, the functions of which are affected. When the blood reaches the lungs, it finds the air dilated by heat, and containing in the same volume less oxygen than the air breathed in temperate climates.

The atmosphere of Cuba is generally warm and always humid. The thermometer descends in winter to 16° the centigrades (60.88° Far.) and rises to 38° centigrades (100.4° Far.) in summer. During the latter season, the humidity of the air is greater than in winter. Daily rains are constantly followed by an ardent sun, which makes the atmosphere a veritable sweat-house. During these storms, incessantly renewed, an extraordinary electrical tension is felt. Such are the surroundings in which the stranger comes to live.

The thermometer in the hot season, has a constant and invariable progress, which we have found at 4 o'clock in the morning 23.20° Reaumur (84.20° Far.) ; at 8 o'clock, 27.40° (93.65° Far.) ; at 4 o'clock in the afternoon, 19.60° (76.10° Far.) ; at 8 o'clock in evening, 26.40° (91.40° Far.) ; at midnight, 22.20° (81.95° Far.).

The hygrometer indicates a mean of 93° .

After sunset, the temperature lowers, the air condenses, but at the same time the dew is so abundant, that we have seen it fall in little drops. The changes of temperature, the sensations of coolness are causes contributing to the development of disease. The condensation of the air is much greater under lunar influences. This fact, unexplained to this day even, is unanimously accepted by the medical men of the country.

The winds prevailing at Havana during the hot season, that is, from May to October, are from the north, northeast and southwest. During the day, they blow from the Gulf and from the northeast ; during the night, they come from the land. But from June to September, the winds regularly prevail from the south. Dangerous to themselves, their harmfulness is increased by miasmata absorbed from the surface of the island, the entire width of which they traverse.

If the atmosphere is not the only cause of the disease, it exercises at least a great influence upon its development. This explains the reason of the existence of yellow fever on the shore and not on the mountains, and in localities distant from the coast some leagues in the interior. Miasmata from their peculiar gravity tend to remain on the level of the soil. So the unfortunates, lodging in low, humid, contracted places, are the first and the most roughly tried. For stronger reason, the danger is imminent on board of vessels constantly exposed to emanations from the roadstead, and to the mephitic matters which compose their cargoes.

Under the influence of heat, the body is little disposed to movement, and digestion becomes more difficult. The seaman, forbidden to go ashore, is fed with salted meats of indifferent quality, he drinks unfiltered water, containing prodigious quantities of animalculæ, and this double cause exercises a pernicious action on the stomach and digestion.

It is seen, then, what peril attends him who for the first time

faces a residence at Havana. He will certainly not escape the yellow fever, at least in its mildest form, ordinarily called the fever of acclimation. Of this we will treat further on. But to enter on our subject positively, we proceed to describe the symptoms of yellow fever in its severest form :

SYMPTOMS—ACUTE SUDDEN CASES.

Attack sudden, ordinarily at night, characterized by violent chills, immediately followed by insupportable headache ; severe pain in the loins ; feeling of lassitude in the joints, especially in the knees ; bad taste in the mouth ; tongue sometimes clean, sometimes saburral and whitish ; weakness overwhelming. Sometimes the attack occurs abruptly in the day, after a meal, or after violent exercise or a long walk in the sun. Here there is no chill, but intense headache and great heat, dry skin, burning over the body, eyes protruding, conjunctiva strongly affected, face red, pulse strong and frequent, thirst dreadful, breath hot, pains in the limbs, loins, and joints, as before mentioned.

Left to itself from twelve to twenty-four hours, the malady makes rapid progress. The headache increases ; the patient feels an oppressive weight on the chest ; he sometimes has a disposition to vomit. Applying the hand to the stomach, the beating of the coeliac trunk is distinctly felt, and the pain is so great, that the patient cries out at the least pressure ; the gums swell and become of a livid red color ; the tongue, red on its borders, tends to dryness in the middle ; the breath has a peculiar fetid odor ; thirst is very intense ; the conjunctiva has a yellowish tint ; the look acquires a fixity, which gives the physiognomy an appearance of *hébétude* ; the patient is in profound sleep, from which it is difficult to wake him, or in a state of inquietude or of violent agitation ; the skin remains warm, the pulse full, strong, frequent ; the urine clear or charged with albumen, in quantity more or less ; the pain in the loins is insupportable.

In twenty-four to thirty-six hours the case is aggravated. The blood is directly altered in its composition ; the general heat diminishes, it may be without the presence of perspiration ; the color of the skin changes, becoming at first clear, and then of a lemon yellow ; the patient complains less of the head, because the sensations become obtuse ; soon the eyes become haggard ; a brick-

Many medical men pretend that yellow fever is not the same in all years ; but this is not correct. That which varies is the mode of attack ; but, when this period is passed, the same organs are always found to be affected ; and so, too the diagnosis is not positively unexceptionable, until the introduction of the second period,

Often the disease does not pass beyond the premonitory period and yields to well directed treatment. In this case it is called fever of acclimation, and is most always a sufficient protection against yellow fever.

I will not revert to the symptoms which characterize the second period, the description I have given seeming to be sufficient ; but I will dwell anew upon the symptoms observed during the third period. This is determined especially by the complete decomposition of the blood, resulting from the deep alteration of the nervous system. Its duration is from two to seven days, and even more, if the disease terminates happily. This is the typhoid period "par excellence," as when cerebral alterations predominate, it might be called the typhus cerebral type with all its most prominent symptoms. So, also, when there are alterations of the coats of the intestines. The autopsy then discovers the cadaverous lesions belonging to abdominal typhus, lesions determined before death by the suffering on the level of the right iliac fossa, gurglings, and petechial spots.

If the cerebral symptoms predominate, the patient is agitated by violent delirium, and his condition often demands the straight-jacket. With some subjects the delirium is gentle, the hearing is lost, and the patient sinks into coma.

When abdominal symptoms prevail, the brain is sound to the last moment, and the patient preserves his intelligence. The eyes give to the physiognomy an expression of peculiar hebetude ; at other times, sunk into their orbits, they present a choleraic aspect. The tongue dry, rough, hard to the touch, is black toward the middle ; the gums bleeding, become ulcerated as with scorbutics, or those who have been abused with mercury ; the blood, resembling a sanguinolent sanies, drains through the commissures of the lips, by the nostrils, by the anus, and by the vagina : petechiæ form upon the skin ; the breath has the fetid odor of a putrefying body.

Sometimes hemorrhage does not take place. The tongue remains humid, and is charged with a whitish paste adhering to the finger when it is raised. The gums enlarged and swollen bleed but little, or not at all. The pain at the pit of the stomach is intense, and the pulsations of the celiac trunk are perceptible to the eye. The sensation of burning in the throat produces great suffering, especially during deglutition. Soon the hiccough augments this state of suffering; dyspnœa follows the increase of pain in the epigastrium. The color of the vomit is modified; from bilious it becomes black, or the clots observed in the second period increase, and are changed to a substance resembling coffee grounds. The matter of the vomit is sometimes very abundant, and the patient, who in his delirium casts it upon his bed, presents a hideous spectacle. This delirium is violent or mild. Let us still mark the subsultus of the muscles, the carphologia, the convulsive and tetanic movements, the sometimes general trembling of the body, in which the facial muscles participate. The pain in the right iliac fossa existing in the second is augmented in the third period. The urine is suppressed or becomes deep yellow, more and more albuminous, thickened, and sometimes stained with blood.

The stools, which are diarrhœic, are clotted at the commencement of this period. This clotty matter is of a gray ash color, and sinks to the bottom of the vessel. The skin changing its color, assumes a shade from yellow to a deep yellow, almost black. It becomes cold and is sometimes covered with icy sweat. The pulse presents a singular phenomenon. In certain cases it is not in connection with the state of general disorganization which the other symptoms indicate, and often it will be difficult for a medical man, who did not at the same time see the patient, to suspect the gravity of the disease. It gives from sixty to forty-eight pulsations per minute, and only the irregularity of its beats points out the danger. Sometimes these irregular beats are frequent and depressed, and twenty-four hours before death may disappear. This happens almost always when the urine is suppressed. In this state, the glandular system is seriously affected, the parotids become engorged, and the seat of abscesses, which make a grave complication. Other abscesses form deep in the members. They last a long time, and are as much more difficult to heal as the general state of decompo-

sition is more advanced. Sometimes the disease terminates in spontaneous gangrene. The scrotum becomes covered with blisters, followed in certain cases with mortification. This sign is always fatal.

There may be seep carbuncular eruptions scattered all over the body, and tumors formed on the joints. These last symptoms, far from auguring ill, prolong the course of the disease, and leave a hope of cure. The duration of the third period may extend to eight days. In this event convalescence is very long.

Having passed in review the course of the acute, epidemic, sudden disease, lasting not more than two or three days, and then in the most ordinary cases, where the succession of symptoms does not work out with the same violence, we proceed to examine one by one each of these symptoms, and will indicate the different circumstances proper to make clear the diagnosis and prognosis of yellow fever :

Chills.—The disease, we have already said, is sometimes introduced by chills, the intensity of which is very variable. These are sometimes light, overrunning the body, or are confined solely to the back and loins, sometimes with convulsive trembling, as in intermittent fever. When violent, they last scarcely two, when light, they may continue for twenty-four hours. In all these cases they are accompanied by concentration of the pulse, and when they cease, are replaced by febrile heat. The cases introduced by chills during the night always show a well defined remission or even an intermission. This period of remission, almost of apyrexia, sometime occurs after the first twenty-four, at other times forty-eight hours after the attack. It is necessary for the practitioner to give close attention to this symptom, because, with the intermission, there is a coincident improvement in the morale of the patient, who believes himself entirely restored. He feels weak, and asks for food. The inexperienced physician who makes this concession will not be delayed in his regret. The period of exacerbation is not distant, and with it come too often fatal symptoms. The attack with chills takes place when the temperature is low, and the patient having been warm, is exposed to damp or to currents of air.

Heat.—After the chills the skin becomes burning, dry, and soon an abundant sweat is manifested. This is a good indication. When

the febrile heat has not been preceded by chills, it is rarely followed by sweats. It is a grave symptom, when it persists night and day with undiminished intensity. This symptom is developed above all in robust subjects, who having been exposed to a fierce sun during a drought and during a wind from the South, are seized in the middle of the day.

When the heat is followed by sweats, there is hope; but when, despite treatment, the dry heat continues without intermission, it becomes a very serious symptom. The first period of the disease passed if there is a remission, it is rare that the heat recurs with all its intensity, even in the gravest cases.

Cephalalgia.—The headache, slight in the beginning, when the disease starts with light chills, increases in intensity at the moment of reaction, and diminishes anew with the remission; but this symptom is cause for anxiety, if the pain begins accompanied by strong heat of the skin—above all if the pain is shooting, punitive, and of extreme violence. The headache may be frontal, supraorbital, sincipital or may invade the whole head. More serious in proportion to its persistence, it may last twenty-four hours or more. When it is accompanied by gastric symptoms and continues after these have disappeared, typhoid symptoms will not be delayed. If the headache ceases after the first period, it is very rarely renewed in the second, less in the third, but often it does not yield, and constitutes one of the alarming symptoms of the second period. Headache is almost always the symptom with which the disease commences. The patient complains solely, of pain in the head—the other symptoms would not appear until twenty-four or forty-eight hours after. In these cases the cephalalgia is not very intense.

Delirium.—When the cephalalgia is violent, it is often accompanied by delirium. The patient is sometimes furious, sometimes in a state of complete hebetude or in a coma, from which he cannot be aroused without difficulty. This symptom is extremely dangerous. When delirium accompanies the cephalalgia from the first period, it disappears with it, but when it comes towards the end of the second or third, it ceases only with death.

Photophobia.—Violent cephalalgia and delirium of the first period are most often accompanied by photophobia. It is one of

the symptoms of the attack. It rarely lasts more than twenty-four hours ; but when it is prolonged and accompanies the symptoms of the second period, sudden death is imminent. The eyes may preserve their normal aspect, but they are often injected with blood, and then become glittering and tearful. Often the movements of the ocular globe are accompanied by acute pain.

Towards the second period the eyes assume a peculiar character. Upon the red color of the conjunctiva a yellow hue is presented, which combined with the red becomes an orange-color. These first signs of jaundice appear on the conjunctiva. Towards the third period the capillary vessels of this membrane participate in the general weakness, and bleed through the commissures.

More or less dilatation of the pupil should also fix the attention, because it reveals congestion of the brain. When, toward the end of the second and of third period, the pupil is immobile and insensible to light, it indicates cerebral effusion, which will occasion death.

General Pains.—The pains in the loins and in the joints have not always the same intensity. The former do not appear sometimes until the third day, and then are feeble, or at least endurable ; sometimes they begin with extreme violence, and nothing, unless friction is continued, can alleviate the suffering. This pain lasts ordinarily from one to three days, and its violence is generally in proportion to that of the attack. It is accompanied by pain in the knees and weakness in the lower extremities. The more acute the case, the more violent the symptoms. The patients cannot hold themselves upright—they fall back while being examined. These pains persist during the first and sometimes during the second period, and may extend to all the joints.

Tongue.—The symptoms of the tongue present great variety. Sometimes natural, they do not indicate any change in the coats of the intestines. At other times it is white, large, charged with mucous deposits. When the disease has opened with chills and the intestinal system has not commenced to suffer, it is natural, and remains so during the first day ; but if the gastric symptoms are developed in the onset, and above all if the disease begins with indigestion, the tongue is white, charged with mucous deposits, and the patient complains of a bitter and disagreeable taste. Sometimes

it is white in the middle and red towards the borders, in the degree that the gastric symptoms take the ascendant, or it becomes dry in the middle; then towards the point it shows a blackish stain, rough to the touch—(a symptom of the second period). At other times it is sticky, covered with a pasty and clammy mucus. This is still a symptom of the second period, but it gives a certain hope, because in general its presence excludes the probability of hemorrhage. Often the tongue is entirely dry and rough as a rasp, the patient has great difficulty in showing and drawing it back into the mouth, indicating a typhoid condition of great gravity. Sometimes it becomes bloody, and is covered with mucus thickened and mixed with blood. In these, the gravest cases, it is half paralyzed, tremulous, and seems to escape the influence of the will. Finally, it is not infrequent to see the disease accomplish all its periods without the tongue presenting any morbid sign.

Gums.—The gums often aid us in the diagnosis of the different periods of the disease and of its gravity. In the first period, it is *very rare* that the gums are not natural; as soon as they become livid, swollen, engorged with blood, the prognosis becomes grave. Painful to the touch and bloody on pressure, they present one of the pathognomonic signs of yellow fever reaching the second period. They are rarely ulcerated, but they are often fuliginous, covered with a thick, blackish, glutinous mucus, clinging to the teeth, and exhaling an odor comparable to that of macerated organic matter. The lips are also dry; the lower lip falls as if paralyzed. This symptom belongs to the third or typhoid period. Yet the gums are the seat of passive hemorrhages, which do not always constitute a bad symptom.

Breath.—The breath in the first period offers nothing special; but when the disease becomes localized, when the mucous membrane of the stomach begins to be affected, if the breath of the patient is examined, there will be recognized an odor *sui generis*, which cannot be described or forgotten. Toward the commencement of the second period there is a sweetish odor, recalling that of catarrhal mucus; but soon it approaches that exhaled by old bits of beef. When the blood enters upon decomposition, and above all when the stomach encloses the black matter of which we have spoken, it would be called the odor of a putrifying fen. I mention this here,

as my father is the first who fixed the attention of practitioners upon this capital sign in a diagnostic point of view.

Thirst.—Sometimes there is no thirst, again it is burning and inextinguishable. I have seen sick seamen throw themselves into the sea, because they were refused water. This excruciating thirst is one of the gravest signs.

Respiration—Dyspnœa.—During the first period of the disease, at least when the fever is not very acute, the respiration does not exhibit any sensible alteration ; but it is accelerated or diminished according to the acuteness of the period of heat. But towards the second period, when the patient feels a weight upon the stomach, the respiration begins to present certain signs, which the physician can easily appreciate. The patient sighs as if the air were about to fail him ; he draws deep breaths, accompanied by groans and complaints. Still he is unconscious of his condition ; but soon dyspnœa takes place and breathing is painful. This symptom, always grave, often presages death. It occurs most often in cases of black vomit, and above all when the intestinal apparatus is suffering.

Stomach—Intestines.—The epigastric region is often the seat of pain, varying in intensity according to the period in which it is presented. Sometimes it exists in the introduction of the disease, especially following indigestion or excess with liquors. This pain yields ordinarily in the first period to well directed treatment. But it is otherwise when it is presented after twelve or twenty-four hours in the acute type, or on the third or even fourth day in ordinary cases. It always indicates affection of the gastric mucous membrane. This pain, at first dull, like the sensation of a weight on the stomach, acts upon the diaphragm and renders respiration difficult. Augmented by pressure, it sometimes spreads to the right, towards the liver, at other times to the left towards the spleen, and is always an alarming symptom, above all when it is accompanied by throbbing of the cœliac trunk. Most severe when the patient draws a deep breath, it increases little by little in intensity and becomes insupportable ; coincident with it is a sensation of burning in the throat and in the passage to the stomach, a sensation so painful, that deglutition becomes nearly impossible. As this symptom rises, dyspnœa increases, and the diaphragm seems threatened with paralysis. The epigastric pain, accompanied by cœliac throbbing, constitutes one of the gravest signs.

All these symptoms characterize the third period, and generally terminate in death. Sometimes they are accompanied by vomit, which is at first a colorless acid substance, and later proves to be black vomit.

Vomiting.—The vomiting, as a symptom, plays a very important part in yellow fever. As it frees the stomach when it appears in the introduction of the first period, it is a good augury, provided it does not become persistent. If it continues after the first twenty-four-hours, it is a bad sign. Sometimes the sick are tormented with nausea; the qualms are incessant, but the most violent efforts bring no ejection. This symptom, always very grave, is often the sign of a fatal termination. At other times the patient easily vomits all he takes, and the vomit is *clear*, and so acid as to produce a burning sensation in the throat, or it contains at first little grayish clots, which soon assume a deeper tint, and appear to be formed by mucous follicles from the stomach.

Again the vomit is yellow, bitter, bilious, then becomes a deep green, thickens, and sometimes leaves in the vessel an adherent deposit like the substance which the ancients called *atrabile*. In most instances it is followed by *black vomit*. The material of this is not always the same. Sometimes it is a liquid blood, a veritable hemorrhage, oozing from the capillaries of the gastric mucous membrane. Sometimes the blood supplied by buccal and nasal hemorrhage, but swallowed by the patient, is thrown up afterwards, so simulating black vomit. This should not be allowed to deceive, because the difference is essential to the prognosis. Sometimes the vomit shows a deep brown powder, comparable to coffee-grounds in suspension in a liquid of the same color. This may be exhibited at the first onset or fail altogether. Patients may be seized suddenly with abundant black vomit thirty-six hours after the attack, while others die without having thrown up this matter, and even without having vomited, but the autopsy discovers the black vomit substance in the stomach. Tasteless, insipid, bitter, etc., the savor of this matter is very variable. Under certain circumstances it reddens litmus paper; again it stains blue, litmus paper reddened by acid. Its characteristic odor is analagous to that of macerated marine substances. It is nauseating, and leaves a persistent sensation on the olfactory organs. The color of black vomit varies according to

the nature of the elements of which it is composed. It may exhibit shades of reddish brown, deep brown, chocolate color and coal black. When it is formed by coagulated bile, there is always hope of the patient, and as long as the vomit is not wholly of the consistency and color of coffee-grounds, there is no reason for absolute despair.

Black vomit is sometimes formed of flakes or clots suspended in a colorless or slightly colored liquid, clots which readily fall to the bottom of the vessel, or present themselves in a compact mass containing little liquid; sometimes the liquid in which it is suspended is reddish or deep red, in color and consistency resembling a sanguinolent sanies, like the washings of meat.

Black vomit is sometimes accompanied by stools of the same color. These do not exhibit any special character. Often the substance of black vomit is exclusively furnished by the stools. It is there presented with the characteristics already described, and it is worthy of note, that this circumstance is almost always a reassuring sign.

Black vomit should not be considered as a condition *sine qua non* of yellow fever. Yellow fever may exist without black vomit, and *vice versa*; that is black vomit is not always a certain sign of yellow fever. For example, I have seen a child five years of age, born in the country, a son of creoles, have black vomit composed of clots which were deposited at the bottom of the vessel. He died after four days of illness. This little patient had all the symptoms of a pernicious fever, and epidemic vomito did not exist in the city. A year later, I saw another child have black stools and vomit. This was another case of pernicious fever, but this child recovered.

A negro from the coast of Africa, and resident at Havana for twenty-two years, attacked by pernicious fever, vomited black blood the third, and died on the fifth day.

I have four other cases to add to these. Of the seven patients, five died. Besides, it is well ascertained, and the medical men of our country all know that black vomit is a symptom of certain pernicious fevers.

However, black vomit belongs more especially to yellow fever, and is one of the gravest signs of this frightful disease.

Hiccough.—The hiccough is not of great importance during the first period. It may then be easily mastered. But when it is manifested at the close of the second period, or during the third, it almost always indicates certain death. Sometimes dry, sometimes accompanied by vomiting, but always very distressing, it throws the patient into inexpressible anguish.

Jaundice.—Pain in the right side proves that the liver suffers, above all when this pain is violent and extends to the back; but jaundice, we hasten to say, is not an indispensable symptom of yellow fever. I say more—it really exists from the first period, and very often the sick die or are cured without the skin having the least icteric tint even after death. Still it must be admitted, that it is presented with great frequency.

The yellow color of the eyes and of the face, which gives to the physiognomy of the patient so peculiar a character, is a veritable jaundice. My father has observed, and I have often had occasion to decide, that jaundice appearing before the third day is a symptom very often fatal. After the fifth or sixth day, it is, on the contrary, a favorable symptom. Jaundice does not always present itself gradually. Often a patient left with natural skin is found six hours after with a pronounced icteric color. Finally, jaundice exists sometimes without, sometimes preceding, often following black vomit.

The shade varies much, running the scale from clear to citron, deep, and even blackish yellow. In grave cases, yellowness is the symptom which lasts the longest after the cure. It may continue for two months after the restoration of the patient.

The icteric tint must not be confounded with another coloration of the skin, which takes place in the third period of yellow fever and is common in hemorrhagic diseases with decomposition of the blood. This yields to a citrine coloration of the skin, particularly observed in anæmic dead subjects. It is due to the disintegration, almost total, of the globules of the blood, while the yellow tint is caused by the passage of bile into the blood. This can be extravasated in such great abundance, that the sweat colors the bed clothing yellow, and the urine shows so deep a red, that the physician is tempted to believe in the existence of hematuria.

Jaundice is often coincident with constipation, often also it is accompanied by bilious diarrhœa.

Intestines.—The intestines are sometimes the seat of general pain; frequently this is localized in the right iliac region, with borborygms and gurglings; but this symptom is far from possessing the importance here, that it has in veritable typhoid fever.

When the disease starts with symptoms of cerebral congestion, constipation is very obstinate, and if it persists during the second period, it adds to the gravity of the prognosis.

When the disease in its commencement first strikes the digestive apparatus, diarrhœa presents itself at the same time with vomiting. This should be considered favorable, provided it is increased not to the extent of weakening the patient; free bilious stools are good, but when blackish gray flakes appear from follicles of the intestines, it is necessary to watch them, because they will not be slow to become black. These in certain cases precede the black vomit of the second and even the third day, and sometimes they cease before its appearance. They oftener occur after the vomitings, which sometimes diminish in quantity, sometimes do not undergo any change. Their diminution is a favorable sign. The diarrhœa may also be modified and become bilious after having been black. This change is a happy presage.

The discharges are sometimes stained with blood, as for instance in certain anal hemorrhages, which we will study later. These hemorrhages are grave, especially toward the end of the disease, because of the exhaustion which ensues.

When the pain in the right iliac fossa appears in the second period, accompanied by borborygms and gurglings, with painful sensation on pressure of the hand, it is an indication of local inflammation of the intestinal mucous membrane; and when the pain is coincident with stools, loaded with mucus and follicles of the mucous membrane, engorgement and ulceration of Peyer's glands must be feared, as in typhoid fever.

Urine.—In the first period of yellow fever the urine presents no alteration. It is clear or a little red, according to the general febrile condition or to the dryness or moisture of the skin. But in the second period the urine is also altered in its composition, and presents interesting signs to study. It becomes yellow, gradually

deepens, is charged with bile to the point of coloring the vessel, and sometimes thickens and forms hypostatic sediment, upon which swims a liquid less dark.

When the blood is altered, but before its decomposition is appreciable, nitric acid reveals the presence of albumen in the urine. This is the certain indication of severe, grave yellow fever. In the last period of the disease, a drop of nitric acid suffices to precipitate a considerable quantity. The proportion of albumen increases or diminishes with the gravity of the disease, but in convalescence, some continues to be found for a time.

While I write these lines, I have charge of two patients severely affected for three months. Both had black vomit. One still has the parotids suppurating—the other has white swellings of the wrist, and both still show traces of albumen.

Hæmaturia coinciding with the cessation of other preëxisting grave symptoms, is a good sign, which may be considered critical in the last period of the disease. The urine is sometimes suppressed for more than twenty-four hours. It is a grave symptom, almost always indicating a morbid condition of the brain. The urine may be retained, although the bladder may be so full as to occasion insupportable pain to the patient. It is then necessary to introduce the catheter, by which is drawn a thick, dark, blackish, sticky liquid of an insufferable odor. This retention is caused by general weakness and by paralysis of the bladder. It ceases after some applications of the catheter, and exhibits much less gravity than suppression with vacuity of the bladder.

The Skin.—The exterior appearance of the skin peculiarly assists the diagnosis. In the first period, the skin is sometimes dry, sometimes covered with sweat. Its moisture is a favorable symptom. It is rarely, that the disease then assumes a very grave progress. The cutaneous heat sometimes presents a burning temperature and a dryness, which leave on the hand of the examiner an indescribably disagreeable sensation. When this excessive heat persists to the second period, the case is very serious, at least until a copious sweat is exhibited.

The color of the skin does not change in the outset of the disease; the face is more or less red in proportion to the degree and intensity of the fever. If in the second period, jaundice is de-

clared, the color varies from clear to citron yellow, deep and even blackish yellow. But I have observed already, and I insist anew upon this point, that the icteric tint need not be confounded with that of the skin of anemics and chlorotics. So the hemorrhages which so often occur in the course of yellow fever give a citrine color to the skin, which is not that of jaundice. It is a pale yellow shade, sprinkled sometimes with livid specks (petechiæ) or presenting here and there large spots, deep brown, violet, or black, (ecchymoses).

In certain cases the skin is covered with true gangrenous blisters. These are oftenest observed on the scrotum, the skin of which literally falls into shreds. At other times there are excoriations, which cause more suffering, if they are not observed and cared for in the beginning. In the third period, a veritable orisis, ordinarily favorable, may declare itself in numerous abscesses.

Pulse.—In the first period the pulse is always in connection with the mode and violence of the attack. In general it is hard, vibrating, frequent. At 110 or 120 in the beginning, it remains so in the continued type, or it survives a remission or even an intermission, and then falls to 90 and 80 beats.

In the second period, the pulse offers phenomena worthy of remark. Stronger than in the normal state, it loses its frequency; instead of 110 to 120, it descends to 90, and this reduction seems to indicate amelioration—a false sign—which for some hours precedes the third period, so terrible and so often fatal. In this, the pulse follows the alteration of the blood. During the hemorrhages it is small, feeble, and often thread-like. Its beating even is often arrested twenty-four hours before death—its irregularity is a very bad symptom and announces deep-seated alterations.

Moral.—The moral state of the case has much influence upon its result. Sometimes the sick have no apprehension, again they cannot overcome a sentiment of fear, which is ordinarily fatal. This phenomenon is principally observed among those from the north of Spain and south of France. One remarkable effect of the fright of which I speak is epileptiform convulsion. In 1850, the captain of La Ceres, a French vessel from Dieppe, succumbed to this kind of attack. On his arrival in port, one of his friends was buried, a captain like himself, who had died of yellow fever. Scarcely landed

on the shore, he told me that he would assist in the interment. I tried in vain to dissuade them, but he persisted, and was so affected, that he passed the night without sleep. The next morning he was seized with epileptiform attacks, and died in convulsions twenty-four hours after.

The terror which the disease inspires is not betrayed in all cases in the same manner. Some are overwhelmed, others work themselves up to disguise their fright. Delirium will be more frequent in these than in other cases. Sometimes the delirium is calm, the patient gently murmuring disconnected words; at other times is restrained with the greatest difficulty. It may be a delirium so furious as to require the straight-jacket. These cases ordinarily terminate in convulsions. Sometimes the muscular agitation is so great as to break the bed. With some subjects only the muscles of the face become convulsed; with others, the body is stiffened and curved as in catalepsy. Ordinarily the patient revives, uttering appalling cries.

Autopsies have demonstrated to me, that the convulsive movements are coincident with irritation of the spinal marrow. The sick who recover, undergo a very painful convalescence, which always leaves some traces. They often lose their memory.

Hemorrhages.—One of the remarkable characteristics of yellow fever is the importance of the symptoms of which the mucous membrane is the seat. In the second, above all in the third period, when a blackish liquid oozes from the capillaries, such hemorrhages compromise the life of the patient in the proportion that they may affect the mucous membrane in general. When partial, even if the general condition is ameliorated, they ought to be considered critical; but when coincident with increasing weakness, they are of extreme gravity.

Epistaxis.—The most frequent of these hemorrhages is epistaxis. When it occurs in the first period, with a subject robust and of sanguine temperament, it is a good sign, and should not be restrained, because it will arrest itself. It happens most frequently in the continued type, when the air is dry and the temperature elevated. In the second and third period it can become fatal; on the fifth or sixth day it ought to be regarded as very grave. Patients who have epistaxis sometimes swallow the blood while asleep,

and wake with hematemesis, which, without being serious, may alarm the inexperienced physician.

Gingival Hemorrhage.—Hemorrhage of the gums is not an alarming symptom. It cannot be considered critical, when not accompanied by hemorrhage of the whole mucous membrane of the mouth and tongue. In this case, clots of blood are found, which adhere to the internal face of the cheeks, putrefy and exhale an infectious odor. Very great cleanliness is necessary to avoid this state, which inspires more of disgust than it threatens of danger.

Hemorrhages of the Stomach.—The accumulation of blood in the stomach may be produced by different causes. When, as already mentioned, blood oozing from the nasal and buccal mucous membranes is swallowed by the patient, or where blood exudes from the capillaries of the gastric mucous membrane, so long as the blood is not altered the danger is not imminent.

Anal Hemorrhage.—The anus is the seat of hemorrhages, which ought to be considered critical, when they occur in the second period, especially if the subject is young and robust ; but they are very serious in the third period.

Hematuria.—Another species of hemorrhage, which far from discouraging, ought to give hope, is that of the bladder. It is similar to vaginal and uterine hemorrhage.

The lungs can equally become the seat of hemorrhage. The skin shows it in different ways. Sometimes the blood oozes from accidental lesions like leech pricks, cuts, cuppings and the like. It may raise the epidermis under forms of petechiæ or ecchymoses.

Each one of these hemorrhages may be separately presented. Far then from being a grave characteristic, they are motives for hope, especially when they occur near the outset ; when the subject is robust, when with their appearance the fever ceases, and when the nervous apparatus is not over-excited. But when they appear in the third period, and many of them simultaneously, they ought to be feared as much more, as the patient is weaker. The tendency to hemorrhage in yellow fever depends upon the temperament of the individual and the condition of the atmosphere. Humidity contributes to it greatly. In certain years, yellow fever has been almost

free of this symptom, which may, on the contrary, be the capital feature of another epidemic.

In general, hemorrhagic cases last longer, and their convalescence is painful.

The appearance of the catamenia in females is a great security in the outset of the disease. Generally then the symptoms diminish in intensity. In the second period, they are less favorable; in the third, they produce a complication graver in proportion, as the disease is more advanced and the patient more feeble.

The second, and especially the third period, is to be feared for the pregnant female. If abortion occurs, it has the most fatal consequences, because in this hemorrhagic state, it is easy to understand, that it is very difficult, if not impossible, to arrest the bleeding, which already too fluid, flows with uncontrollable persistence.

The hemorrhagic period is often complicated with induration of the glands sometimes followed by suppuration. Inflammation of the parotids is a favorable symptom, when it happens in a very dangerous phase of the disease. This inflammation is simple or double, and terminates more frequently by suppuration than by resolution. It is very painful and very slow to cure. It often forms fistulas, which delay the cure. The complication of which I speak, does not present itself equally in all epidemics, but I have not seen it so frequent as in the present epidemic. In more than eight hundred sick, I have had forty cases of simple and double parotids, and but a single case terminated in death.

[To be continued.]

Breech Presentations.—Dr. T. Gaillard Thomas (*Med. and Surg. Reporter*), says in a clinical lecture: Never hurry the early stages. Carefully refrain from bringing down a leg with the finger or blunt hook, but wait until the breech presses on the perineum; then turn the woman across the bed, and give a hypodermic injection of ergot. Remember the delivering force must come from above; have an assistant ready to press with all his force as soon as the cord can be reached, urging the woman to bear down with all her might. The result is usually a very speedy delivery, as soon as the finger can be got into the mouth.

CORRESPONDENCE.

OUR NEW YORK LETTER.

46 WEST THIRTY-SIXTH STREET,
NEW YORK, January 17th, 1879.

The presence of Mr. George W. Callender, of St. Bartholomew's Hospital, London, has been the occasion of a number of social gatherings of medical men; the reception which took place at the residence of Dr. H. B. Sands was very brilliant. Mr. Callender will be remembered for his contributions to the inquiry into the effects of injuries upon the bones of the cranium, and for much other valuable surgical work. He has favored us with one or two lectures upon some practical points, as the evacuation of abscesses, and the painless manipulation and after-treatment of surgical cases. His mode of curing abscesses is by over distending them after their purulent contents have been discharged. A crucial incision is made at the point of election and the pus is allowed to escape, and afterwards a syringe with a flexible and distensible nozzle is introduced, and a solution of carbolic acid (1:20) is pumped in. The elastic nozzle fills the opening completely and prevents the solution escaping. Enough is introduced to effect a powerful pressure upon the walls of the cavity, when it is allowed to escape, and the process is repeated until the solution runs away clear. There is no exhaustion following this method, and the abscess heals up very speedily. Sinuses may be treated in the same way—the principle being hyperdistension and asepsis.

Nothing in therapeutics is more striking than the tendency evinced during the past year to return to, or, at least, to reexamine some of the discarded medicinal agents. For instance, Dr. Leaming, one of four leading practitioners, and an expert and high authority in diseases of the respiratory organs, was himself treated for a pleuro-pneumonia by large doses (30 grains, I believe) of calomel. These were given at the outset, and are said to have had a powerful effect in mitigating the severity of the disease, if not in aborting it. Dr. C. R. Agnew has resorted to it in 15 grain doses to arrest threatened iritis after extraction of cataract. A somewhat free

purgation was induced, and the iritis did not progress but subsided promptly, without any adjuvant measures except the routine instillation of atropia, which, however, had been kept up from the first.

Dr. Reuling, of Baltimore, in a late paper recommends it in large doses as a valuable remedy in threatened irido-cyclitis. And Dr. Otis reported to the Medical and Surgical Society a similar favorable use of it in the early stages of pneumonia, in which the crepitant râles, and dulness on percussion left no reason for doubt as to the diagnosis.

Its use at this cautious period of medical science, it is needless to say, is wholly empirical, since no one now ventures, as in the past, upon an explanation of its apparent usefulness. The theorists will be heard from after a while. In speaking of its empirical use I do not wish to condemn that mode, I think most of our favorable medication is empirical; at least it ought to be, and I think that when *a priori*, or inductive methods come to be held subordinate to the knowledge derived from intelligent experimentation, we may expect a material advance in the efficacy of our therapeutics.

The paramount question in reference to every drug or agent should not be as to what value, physiological data or pathological lesions predict for it, but as to what results are derived from it, under given conditions, and what symptoms are mitigated or relieved by it; and the amount given should always be stated. Fortunately our forefathers have left for us a vast amount of useful knowledge of drugs, and we may refine that knowledge by close observation and discrimination. Perhaps we have much to learn from a schismatic school in the study of symptoms in relation to drugs. We practically disregard diseases as entities, and look upon them as simply a collocation of symptoms some of which are more or less portentous of death. A symptom is really nothing more than a perverted, or an arrested physiological activity, or a vicarious expression of one, and it seems reasonable to direct our medical skill chiefly against such as stand in the place of essential processes.

It is obvious that such considerations do direct us in our application of remedies, for after we get beyond those drugs of which the action is unmistakably chemical, we select others for their dynamic virtues; and this means because they have the power to affect

nutrition in diminishing or increasing the play of physical mechanisms. It is not essential to know how they do it, but only that they do it. No apology is needed for these views when we consider the modern use of cold in pyrexias; and of belladonna, quinia, alcohol, &c., in failing heart action, and of strychnia, bromides, &c., in the disturbances of the rhythmic explosions of nerve force.

In evidence of the neglect of therapeutics at the hands of our prominent men, it was mentioned at the last meeting of the Academy of Medicine that among many hundred papers read within the past four years, and covering 8,000 or more printed pages, not one had been specially directed to a therapeutic inquiry. The reason, perhaps, is in the fact that such a topic is not as potent an aid to self and fame as the propounding of a new theory or the invention of a new surgical process.

The stated meeting of the Academy of Medicine, on January 16th, was one of great interest. It was the occasion of the retirement of President Purple, and the induction into office of the new President, Dr. Barker. This Society has certainly been very happy in the selection of its chief officers. Dr. Purple has been president for the past four years, during which time his zeal, personal dignity, influence and valuable contributions have served to advance greatly the high character and usefulness of the Academy. From his valedictory, we learn that upon his election to office the library numbered barely 500 volumes, while now, over 9,000 are on the shelves, available to the entire profession and the public from 9 to 5 o'clock daily. It is probably richer in American medical periodicals than any other collection in the country, not even excepting that of the Surgeon-General at Washington, it contains complete sets of every journal that has ever been published in the United States. The current medical literature is represented by more than sixty periodicals, domestic and foreign. It is proposed to make this library worthy of the American profession. Duplicates are to be allowed to circulate, and with a view to aid this desirable feature in the management, copies of rare (old or new) journals and books are solicited and will be thankfully received and acknowledged.

The Academy proposes to add immediately a more capacious auditorium and better library rooms to its already large and mag-

nificent building. For this purpose a prominent practitioner has subscribed \$5000, and at the last meeting the secretaries were busy receiving the names of those who desired to subscribe towards the additional amount necessary to carry this into effect.

I should not forget to mention the chaste, elegant and witty address of Dr. Barker. I cannot help wishing it could have been heard by some of our practitioners who have given up attendance upon the societies because they "know it all and have nothing else to learn, or because they cannot brook the aggressive advance of the younger element."

Dr. B. is himself not a junior practitioner, and it was a pleasing spectacle to see the dignity with which he was supported by Drs. Anderson, Post, Wood and other Nestors of the profession. He preserves all of his activity, and his love for medicine; and I look upon the fulness of his wisdom with the same admiration that was won from me during my term of service under him, in Bellevue Hospital, 19 years ago.

The laboratory connected with the College of Physicians and Surgeons is now fully supplied with every thing requisite in physiological research, and adds greatly to the means of instruction of that ancient but vigorous institution. It is well endowed by private liberality, and to mention that it is in charge of Professor Delafield at once indicates the usefulness to which it will attain.

Dr. Emmet's forthcoming work on gynecology, I may state in reply to many inquiries, is nearly ready, and will be issued about the middle of February. The fame of the author has already created a desire for it which will speedily necessitate a second edition.

His contribution of knowledge of lacerations of the cervix, and the part he has played in perfecting the operation for vesico-vaginal fistula entitle him to high rank as one of the benefactors of the human race.

DER.


The Homœopathic *Times* announces the discovery of charcoal as a prophylactic in yellow fever!—*Lancet and Clinic*.

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED
IN WILMINGTON. N. C.

M. J. DEROSSET, M. D., 46 West 36th St., N. Y. } Editors.
THOMAS F. WOOD, M. D., Wilmington, N. C. }

 *Original communications are solicited from all parts of the country, and especially from the medical profession of The Carolinas. Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to our JOURNAL, by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to DEROSSET & WOOD, P. O. Box 535, Wilmington, N. C.*

THE JOURNAL AND THE NEW YEAR.

Just one year ago we revived the NORTH CAROLINA MEDICAL JOURNAL, with the belief that the profession of the State would welcome its return to their offices with pleasure. In this we have not been disappointed. Although the first JOURNAL of this name once occupied the same field, we found it essentially new and unexplored, and our JOURNAL now goes to three times as many subscribers as the old one carried on its lists.

Our readers must be the judges whether or not we have fulfilled the promises we made in our Prospectus issued September 15th, 1877. We have had assurances from numerous friends of our steady progression, and we have had what we value just as highly, adverse criticism. It is not our purpose to parade the former, although it would probably make new friends for us, as we prefer slow and genuine development. We will profit by the friendly criticisms of our subscribers as far as we are able. To all who have interested themselves in our work we acknowledge our indebtedness.

Many of our friends have received the JOURNAL for a year, but have not responded to bills sent with the promptness we desire and require. We assure them that it is by their assistance with money that the JOURNAL can be made more and more acceptable to them.

We have to regret the delays in our issues. It is not due to a want of material, and will soon be obviated, enabling us to be ready for the mail on the 15th of each month after this issue.

We ask our friends therefore to secure for us new subscribers, to send in their contributions promptly, not to get out of patience if we sometimes dun the wrong man, and the 3d and 4th volumes of the NORTH CAROLINA MEDICAL JOURNAL will be an improvement on the 1st and 2d volumes.

THE SUPPLEMENTAL BOARD OF HEALTH BILL.

For two years the State Board of Health has had a nominal existence, and during this time it has been demonstrated that its permanent establishment could be completed, and good results obtained. As soon as the leading medical men in the several counties were notified of the formation of the Board, and the prospects of success, many of them while entirely endorsing the aims, would not lend their aid, because the certainty of insufficient means to accomplish the ends, forboded failure. A few of them yielded to the personal solicitations of the Secretary and made reports until a want of coöperation proved that it was useless to go further.

The Committee from the State Medical Society, met in Raleigh on the 20th inst., and after weighing the temper of the Legislature in session, drew up a bill supplemental to the original act. This bill contemplates 1st : That the Board shall be composed of nine members, six of whom shall be elected by the State Medical Society and three appointed by the Governor, one of whom shall be a civil engineer. The appointees of the Governor to serve two years, and of the State Society, two for two, two for four, and two for six years respectively.

2d. That there shall be auxiliary boards in each county, composed of physicians eligible to membership in the State Medical Society,

the mayor of county or town, chairman of commissioners, and city or county surveyor. The Superintendent is to be registrar, keeping the record according to the plan to be devised by the State Board of Health, and receiving for his compensation a salary equal to the amount paid in 1878 for medical service to the jail, work-house, poor house, and medico-legal post-mortem examinations. The service of these public institutions also devolves upon the Superintendent of Health.

3d. The State is to do the necessary printing and furnish the stationery, and appropriate \$300 for expenses.

The scope of the work included in the programme is intended to place the board on a somewhat more advanced plane than the one occupied now, but the committee would never have agreed upon this contracted plan from choice. After gaining some insight into the temper and disposition of the legislature, they were of opinion that to ask more would consign the whole matter to defeat.

Even with this moderate request we are by no means sure of success.

The report of the Board was presented to the Governor on the 22d inst., and the matter laid in his hands. We are assured of his personal approval of our work, and we are sanguine that he will place the memorial before both houses, in a way that will secure for us the limited help asked for.

The members of the medical profession in both houses were attentive to the plan proposed, and we know that if they alone could effect its passage, the bill would certainly be much less narrow.

The medical profession of the State desire this work to progress, that we may be put on an equality with other States, and be enabled to aid in the great work of National Sanitation, not for the good it will do the doctors, as will be obvious to an unprejudiced thinker, but for the good it will do the whole State.

One M. Holden is palming himself off at Polkton and other places as a doctor, upon recommendations from Wilmington physicians. The signatures of these gentlemen were given to help Holden get a situation as a clerk, and his subsequent use of them is fraudulent.

REVIEWS AND BOOK NOTICES.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE UNITED STATES ARMY. 1878.

Surgeon-General Barnes gives a report in 24 pages, of the transactions of his department for a year. The first part contains the "Financial Statement" of the Bureau.

The second part gives the "Health of the Army for fiscal year ending the 30th of June, 1878."

The third part "Occurrence of Yellow Fever During the Summer of 1878." The plan adopted was to move the garrison on the approach of the disease. Only two deaths from this disease.

The fourth contains "Work Performed in the Record and Pension Division." Since the accession of more clerical force in this department, there has been a large gain upon the arrears of work which had been long accumulating.

Under the "Division of Surgical Records" the report is more readable. It consists chiefly of extracts of reports from medical officers serving on the frontier from which we quote :

"In a detailed account of the expedition, which terminated in the surrender of Joseph and his band, on October 5, 1877, Surgeon Tilton gives at length the manner of transporting wounded men on two-mule litters and travois among our troops, and the mode employed by the Indians in securing their wounded on horseback. The report is replete with practical remarks of a careful observer. "In anticipation," he remarks, "of the homeward march, a detail had been sent out for poles, suitable for two-mule litters and travois. Instructions were given to make six litters and four travois, but the poles were so short (about sixteen feet long) that they had to be used as travois. Unless the rear mule can see where to step, he walks off sideways like a crab. * * On our first day's march, October 7th, we were met by two ambulances from Colonel Sturgis' command; but no patient cared to be disturbed and the ambulances were not used until next day, when two fractured thighs were put into one ambulance and Lieutenant Henry Romeyn, 5th Infantry, who was shot through the right lung, occupied the other. Five men were carried on travois the balance of the march to the Missouri River, a distance of (110) miles from the battle field. Two

more travois were turned over to the Indians. One Indian, who was shot through the back, was carried on a horse by supporting his body on two crossed sticks, each about four feet long; the lower ends were secured to the rings of a Mexican hair cinch. They were crossed at the pommel of the saddle, and projected about eighteen inches above the horse's back. Pillows were placed against the sticks; the wounded Indian was carefully assisted into the saddle, a robe passed around him, and a lariat outside of the robe. He appeared to get along comfortably. I made inquiry and examined the arrangement of the sticks. Before reaching the cantonment, I found that he had improved sufficiently to dispense with the apparatus. I noticed one travois which the Indians had fixed; the poles were short and the position of the patient was much cramped, but he appeared to be content with the arrangement."

"Although thirteen years have elapsed since the war * * * * * additional surgical cases are yet sometimes received from various sources," so that now "the number of tabulated cases aggregate 268,927."

The Library.—About 2000 volumes and 3000 pamphlets have been added to the library of the Surgeon-General, now so well known as the National Medical Library, making a total of 46,000 volumes, and 50,000 pamphlets. The index catalogue, including original papers in medical journals and transactions, has been completed to date, and the work of classification by subjects, including the preparation of a net-work of cross-references, is so near completion that the work can be sent to the press at any time."

The Surgeon-General renews the recommendation to have this great work printed and put "beyond the reach of casualty." In this recommendation he is amply seconded by the medical journals in the country, the American Medical Association, the American Public Health Association and many State Societies.

The printing of this work would place this immense collection within the reach of thousands of physicians, and would reflect great credit upon American medical literature. It would surpass in extent and usefulness any work of similar character in existence either in this country or elsewhere. This present Congress ought to appropriate the needed money at once.

*MEDICAL AND SURGICAL HISTORY OF THE WAR.

The work on the second medical volume of the above has steadily progressed, and in all 691 pages are now stereotyped.

We see that there are a great many unsuccessful candidates before the Army Boards, for position of Assistant-Surgeon. Of a total of 51 examined *only seven passed*. Is this the place for commentary upon lax medical training in the Colleges, or for a criticism upon the uselessly rigid examinations? The army seems always to maintain a choice corps of medical men at any rate.

The conduct of the Surgeon-General's Bureau seems always to be above reproach, and the Surgeon-General and the able medical family he has called around him deserve the lasting gratitude of the profession at large for the high position they have been so instrumental in giving to American medical literature.

DIFFERENTIAL DIAGNOSIS: A Manual of the Comparative Semiology of the More Important Diseases. By F. DE HAVILLAND HALL, M. D. Assistant Physician to the Westminster Hospital. London. American Edition with extensive additions. Philadelphia: D. G. Brinton. 115 South 7th Street. 1879.

It is a most difficult matter in expressing one's opinions of books in these times of rapid book-making, to give fairly such information as our readers would like to have before adding a new volume to their library.

This attractive work is the first American edition, and without other means of comparison, we would judge from the references that very copious additions have been made. This feature is very commendable, as it brings very many valuable diagnostic formulas together, which otherwise would take an extensive reading of American Journals to compass.

The tabular method of comparing symptoms so largely employed by the best teachers is well utilized, making the differential diagnosis of many difficult diseases sufficiently clear for the student, and a convenient remembrancer for the practitioner.

One extract will suffice to show how well this part of the work is done :

*We are glad to see on page 18 that that ugly word "Rebellion" is left out of the caption in the section begun on this page.

MEMBRANOUS GROUP.	DIPHTHERIA.
Is a local complaint, rarely or never occurs after puberty.	Is a general disease ; common to all ages.
Is not contagious. Type sthenic.	Is decidedly contagious. Type asthenic.
Commences with a cough, catarrh and hoarseness ; little or no sore throat and difficulty of swallowing. Cough shrill, metallic ; breathing stridulous from the outset.	Commences with a chill, sore throat, difficulty of swallowing ; but neither hoarseness nor cough at the outset. Stridulous breathing a late symptom.
The membranous affection begins in the larynx and extends to the throat.	The membranous affection begins in the throat and extends to the larynx. (Da Costa).
Fauces injected but rarely swollen, and generally without exudation.	Fauces injected, swollen and presenting exudations.
Exudations never cutaneous.	Exudations often cutaneous.
No swelling of the submaxillary glands.	Submaxillary glands swollen.
Epistaxis and albuminuria absent.	Epistaxis and albuminuria frequent.
Little and often no prostration of the general strength.	Considerable, often extreme prostration.
Improves under emetics, local counter irritants, expectorants and depressants.	Demands a stimulating and sustaining treatment.
Is never followed by paralysis.	Subsequent paralysis not infrequent.
Rarely fatal. Death from apnoea. Blood not changed. Spleen not affected.	Frequently fatal. Death usually by asthenia. Blood after death usually fluid and dirty brown. Spleen enlarged and softened. (J. W. Howard).

Here is the author's definition of scrofulous inflammation, a condition which he believes not to be so well understood by American physicians on account of its comparative infrequency :

“When an individual acquires an inflammation of a mucous membrane, of the skin, of the joints, of the bones, of the genito-urinary apparatus, or of almost any part of the body, such an inflammation usually runs an acute course and terminates in resolution, or in suppuration, or in the formation of organized new tissue. But, if the inflammation, instead of doing this, simply reaches a certain point and stays there, and then instead of resolving or suppurating merely, goes through a succession of degenerative changes, such an inflammation is said to be scrofulous. Page 62.

The mechanical execution of this book is excellent, no little merit for those of our seniors to consider, who find a clear large type not only a luxury but a necessity.

CONSPECTUS OF ORGANIC MATERIA MEDICA AND PHARMACAL BOTANY, comprising the Vegetable and Animal Drugs: Their Physical character, Geographical origin, Classification, Constituents, Doses, Adulterations, &c. Tables of the Tests and Solubilities of the Alkaloids appended. By L. E. SAYRE, Ph. G. Philadelphia: D. G. Brinton. 115 South Seventh Street. 1879. 8vo. Pp. 220.

The study of the character of the drugs proper is more neglected by medical students than any other branch of medicine. Since the days when the doctors kept their own drugs, and were compelled to make their own tinctures and syrups, &c, office students have learned to regard such studies as entirely a matter with which only the druggist has to do.

With the volume before us, the study of drugs is facilitated by methodical arrangement and concise descriptions. A “Chart of Botanic Materia Medica” begins the book, giving in tabular form the Natural Order, Official Name, Botanical Name, Habitat, Part used, Constituents, Medical Properties, Dose, Official Preparations. Thus LOGANIACEÆ, (Nat. Ord.), Gelsemium, (off. name), *G. sempervirens*, (Botanical name), Yellow Jesamine (Common name), Southern U. S. (Habitat), Root (part used), Gelsemia and an acid (Gelsemic acid) (constituents), Diaphoretic and anti-spasmodic (med. properties), Gelsemia, grs. $\frac{1}{4}$ to 1 (Dose).

A few pages are devoted to the Geographical Grouping of *Materia Medica*, which could have been improved, and made more comprehensive by the use of the charts in *New Remedies*.

A concise account covering thirty pages is given of Structural Botany, and Botanical Classification, being most useful to the Student who has only a limited knowledge of Botany.

The next division of the work treats of the characteristics of drugs beginning with, roots, rhizomes, tubers, bulbs, stems, woods, barks, leaves, and leaflets, flowers and parts of flowers, fruits, seeds, gums, sugars, fats, oils, &c., &c., the description under these heads being short and comprehensive, of which the following is an example :

PODOPHYLLUM. *P. peltatum.* May Apple.

“ Whole rhizome is horizontal, one to several feet in length, and about a quarter of an inch thick, jointed and furnished with radicles. In commerce, consists of pieces two to three inches long, and sometimes furnished with fibres. The leaf scars are plainly visible, and are far apart, except in a thickened portion, where they are close together ; broad, flattened joints at short intervals. Externally, orange brown, short fracture ; internally, whitish, showing an extremely small, corky layer, and a thin, simple circle of about twenty to forty yellow vascular bundles, enclosing a central pith, which, in the larger pieces, is about two lines in diameter.

“ Podophyllum contains no alkaloid. The yellow coloring principle heretofore supposed to be due to Berberina is due to the resins, one of which is soluble in ether, and the other insoluble in the same liquid. Podophyllinic acid, which has a chemical behavior analogous to Quercitron, is said to be also a constituent.”

Two tables, one of “Vegetable Antidotes and Incompatibles,” and the other of the “Solubilities of the Alkaloids” close the volume.

We commend the volume to students of medicine and pharmacy in the author's language. Students “lose a good deal of valuable time in finding out what to learn,” and with this little volume before them they must be dull indeed if they are not enticed and stimulated to seek after more thorough knowledge.

PROCEEDINGS OF THE BOARDS OF EXPERTS authorized by Congress to Investigate the Yellow Fever Epidemic of 1878. Meeting held in Memphis, Tenn., December 26th, 27th, 28th, 1878.

This pamphlet gives the minutes of organization of the Board of Experts appointed by the Joint Committee of the Senate and

House of Representatives on Epidemic Diseases. The Committee is composed of :

Dr. J. M. Woodworth, Surgeon-General, M. H. S.

“ S. M. Bemiss, Editor of the New Orleans Medical and Surgical Journal.

Dr. Jerome Cochrane, Mobile, Ala.

“ William Selden, Norfolk, Va.

“ Samuel A. Green, Boston, Mass.

“ Wm. H. Randle, Philadelphia, Pa.

“ Jacob S. Mosher, Albany, N. Y.

“ M. S. Craft, Jackson, Miss.

“ R. U. Mitchell, Memphis, Tenn.

“ L. A. Falligant, Savannah, Ga.

“ Stanford E. Chaillé, New Orleans, La.

Col. Thos. S. Hardee, Engineer, New Orleans, La.

Dr. R. M. Swearingen, Austin, Texas.

After the usual preliminary working organization the following resolution was adopted :

“ *Resolved*, That in order to carry out the instructions which have been prescribed by the “ Joint Committees of the Senate and House of Representatives,” for the government of the Board of Experts, in the investigation of the origin, cause, and distinctive features of yellow fever we commend that the plan of investigation heretofore pursued by the Yellow Fever Commission, which has been acting during the last three months, under the orders of the Surgeon-General of the Marine Hospital Service, as reported in the memorandum submitted by said Surgeon-General, together with the additional inquiries suggested in said memorandum, be adopted as a basis for the further investigation to be conducted by the Board of Experts.”

Two sets of interrogatories were framed, one to be propounded to the medical men examined, and then to the non-medical witnesses. Both sets of questions are intended to elicit the personal opinions and observations of persons interrogated.

Another Memorandum of points to be investigated by the Board of Experts, traverses the whole ground of inquiry seemingly, so much so that we do not think there is any possibility of the work coming to a successful issue soon.

The work has been divided up between sub-committees, and every effort is being made to work to the best advantage. We hope the

Board will not listen at all to the clamors of the press to tell them something of their doings before they arrive at satisfactory conclusions. At this distance from the meeting of the Public Health Association we are satisfied that it was a great mistake to have made any report at all at Richmond, and with this experience fresh in the memory of the present investigators we hope they will not report at all until they are fully ready.

CLINICAL DIAGNOSIS: A Hand-book for Students and Practitioners. Edited by JAMES FINLAYSON, M. D., of Glasgow. Reprint. H. C. Lea. Philadelphia. 8vo. Pp. 546.

This is one of the really useful books. It is attractive from preface to title page, and ought to be given a place on every office table, because it contains in a condensed form all that is valuable in semeiology and diagnostics to be found in bulkier volumes, and because in its arrangement and complete index it is unusually convenient for quick reference in any emergency that may come upon the busy practitioner. We do not approve of such books being put into the hands of under graduates—they should be taught that enduring knowledge is to be gained not by short cuts but only through tedious ways; but to the practitioners who starts out in life without the advantage of a post graduate residence in hospital, this work will stand in the stead of a clinical teacher, and will guide him wisely to the best means of making thorough analyses of cases with which he may have to deal. The hospital men will also find in it a valuable friend to instruct them in rare diseases and symptoms, and as a source to which they may look for a ready refreshing of the knowledge they already possess.

The book opens with an instructive chapter of the physiognomy of diseases by Dr. Gairdner; then comes very complete and satisfactory chapters on the various methods and appliances employed in the examination of patients; then on the significance of symptoms which forms the bulk of the book. The chapters on clinical thermometry, the physical examination of the chest and the method of making post mortem examinations we may single out as being particularly good and practical.

THE PRINCIPLES AND PRACTICE OF SURGERY. BY JOHN ASH-HURST, JR., M. D. Philadelphia. Second edition. Enlarged and thoroughly revised. H. C. Lea. 8vo. Pages 1040.

The attempt to embrace in a volume of 1000 pages, the whole field of surgery, general and special, would be a hopeless task unless through the most tireless industry in collating and arranging and the wisest judgment in condensing and excluding. These faculties have been abundantly employed by the author, and he has given us a most excellent treatise, brought up by the revision for the second edition to the latest date. There are a few novelties which have been omitted, and it would have been well to omit some which have been included. The description of the various surgical diseases and procedures are very clear and given with quite as much detail as the vast scope of work would warrant. Wherever a more circumstantial narration is needed, the reader can ascertain from the foot notes and references the original sources whence the information is drawn.

Of course this book is not designed for specialists, but as a source of general surgical knowledge, and for general practitioners, and as a text-book for students it is not surpassed by any that has yet appeared, whether of home or foreign authorship.

AN ATLAS OF HUMAN ANATOMY: Illustrating most of the Ordinary Dissections and many not usually Practiced by the Students accompanied by An Explanatory Text. By RICKMAN JOHN GOODLEE, M. S., F. R. C. S. Fellow of the University College, &c., &c. Philadelphia, Pa. Lindsay & Blakiston. 25 South 6th Street. 1879. Price \$2.50 a part.

The first part of the above work with explanatory text is just received from the publishers, and equals our expectations. Those of our readers who have been enjoying the many illustrated works commenced last year to issue from the English press, can safely add Goodlee's Atlas. Mr. Goodlee's reputation as an able anatomist and a clever artist will doubtless be increased by this beautiful work.

The descriptive text is published separately, so that references to the plates is more convenient. It will be completed in twelve or thirteen bi-monthly parts, folio size, each part containing four large plates, two figures in each plate, with 300 or 400 8vo. pages of text.

MODERN MEDICAL THERAPEUTICS: A Compendium of Recent Formulæ and Specific Therapeutical Directions, from the Practice of Eminent Contemporary Physicians. American and Foreign. By GEORGE H. NAPHEYS, A. M., M. D., etc. Sixth Edition. Revised and Enlarged. Philadelphia: D. G. Brinton, 115 South Seventh Streeth. 1879.

The above work has been before the American medical public so long, that we might well pass it by without one word of comment, leaving it to the already formed opinions now held of its merits. The secret of its success which has been unprecedented; five editions having been exhausted and a sixth issued; is easily arrived at by a cursory examination.

The physicians of limited leisure for study, or with a limited library, comes into his office seeking the counsel of his mute friends, on the puzzling case of the day. It may be a case of acute rheumatism in the person of an esteemed patient. He turns to page 409 and finds at once remedies proposed by Dr. Maclagan, of Dublin, Dr. Traube, of Berlin, Dr. Stucker, of Berlin, with the doses of salicini and salicylic acid all formulated in neat prescriptions. Continuing his search, he finds advice in the lemon-juice treatment from Dr. A. H. Chandler, of New Brunswick. Further on a résumé of the treatment by Dr. H. W. Fuller, Dr. Finshaw, Mr. Henry Power, F. R. C. S., Dr. F. J. Farre, of London, Dr. Fleming, of Birmingham, Dr. Chambers, of London, Dr. Da Costa, of Philadelphia, and others. Then in order to make consultation of its contents easier, the remedies used in rheumatism are given in alphabetical order, with the names of the authors who recommended them. In short, the book is a ready reference index to current therapeutics, and will keep its place on the office table when the more ponderous and respectable and elaborate times will have gathered on the dust of neglect.

REPORT OF ROBERT LEBBY, M. D. Health Officer, for the fiscal year 1878, to the General Assembly of the State of South Carolina at the regular session of 1878.

Dr. Leby in this report shows the great advantage which has accrued from his efficient quarantine at Charleston. Like in too many Southern States he is hampered in his action for lack of

means, and he is obliged to plead with the legislature of his State for increased appropriation, as though the work was not a public one, and worthy of the first consideration of legislators. It cannot be long before the most prejudiced representatives of the people will be made to understand the folly of inadequate appropriations for the machinery of the public health ! Dr. Lebbey's appeal should be successful, and we wish him all the success his eminent abilities entitle him.

—◆—

SUBCUTANEOUS TENOTOMY—PROPER CREDIT GIVEN
TO DR. JAMES H. DICKSON.

—◆—

We give cheerfully the following correction :

To the Editors of the North Carolina Medical Journal :

GENTLEMEN :—In the December number of the JOURNAL, I noticed the statement, that Dr. Hutchinson, of Brooklyn, was the first to give Dr. James H. Dickson, of Wilmington, proper credit for priority in dividing the tendo-Achillis subcutaneously in the treatment of club-foot.

Professor L. A. Sayre in his manual on the treatment of club-foot, page 33, says : "I am informed by Professor A. C. Post that tenotomy was first performed in this country by Dr. Jas. H. Dickson, of North Carolina, who cut the tendo-Achillis in the case of his brother about 1835."

In several lectures delivered on the subject in Bellevue Hospital Medical College, from 1873 to 1875, I have heard Professor Sayre give this credit to Dr. Dickson.

Yours very truly,

Magnolia, January 10, 1879.

J. D. ROBERTS, M. D.

—◆—

Retarded Vaccination.—Dr. John R. Partenheimer, of Philadelphia, reports (*Med. and Surg. Reporter*, Dec. 21), a case of vaccination with animal virus, in which there was an interval of eight weeks between the insertion of the virus and the vaccine eruption. The case finally went through the usual stages.

MEDICAL ANNOTATIONS.

THE QUININE ERUPTION.

From the prominence given to the quinine eruption in the foreign and home medical journals, it would be taken to be a new discovery. Such is not the case, however, for it is a phenomenon well known in the South, where quinine and other cinchona alkaloids are so largely given. There is hardly a physician of a few season's experience who does not have to bear in mind the idiosyncrasies of some of his patients in regard to these alkaloids. For it is not peculiar to quinine any more than to cinchonidia or other cinchona alkaloids, and probably cinchonidia develops the rash more frequently than quinia. This eruption is almost identical with that produced by belladonna, having as a concomitant also the dry throat.

We have seen "sweet quinine" (a substance supposed to be an inferior cinchona alkaloid mixed with pulverized licorice root) produce most alarming symptoms in two cases.

We make some quotations from an interesting article on Quinine Rash from an editorial in the *Medical Times and Gazette*, Nov. 25. "The clinical importance of the quinine rash is due to its great resemblance to that of scarlet fever—a resemblance which has struck all observers and imposed on some. Besides those points which are referred to above, and which Professor Köbner in some recent experiments relied on in making his diagnosis; the swelling of the face and arms, which sometimes occurs quite early in the attack, deserves attention; and the use of the thermometer for twenty-four hours will exhibit very different fluctuations of temperature from those of scarlet fever. If the case can be seen early enough, and the urine examined within a period not exceeding thirty-six or still better, twelve hours after the attack begins, quinine may be detected in it. Either by Briquet's solution, modified by Binz (iodine two parts, iodide potassium one part, water forty parts), which will detect from one-forty-thousandth to one-fifty-thousandth part of quinine; or by Kerner's fluorescence reaction, which consists in adding a concentrated solution of nitrate of mercury to about thirty to fifty cubic centimetres of wine until no further precipitate occurs, filtering and washing the precipitate. If quinine be present in any quantity, the wash-water will fluoresce in ordinary daylight; but if the amount is very small a special instrument is needed to see it.

DIPHThERIA.

Dr. O. Whitney, of Pawtucket, read a carefully prepared essay on the subject of "Diphtheria," before the Rhode Island Medical

Society, December 18th, 1878. He quoted largely from medical authorities in support of his conclusions as to the cause and treatment of the disease, which were presented as follows:—

1. There is but one pseudo-membranous disease.
2. It belongs to the same family with influenza, which may, by the same nomenclature, be called the mucous disease.
3. Both are inflammations of the same anatomical structure, i. e., the mucous membrane lining the nares, throat and primary passages to the lungs.
4. The "flux," or product in influenza, is innocuous, and not capable of self-propagation.
5. The "flux" in the pseudo-membranous disease is concrete and raised to morbid specificity, or having self-generating powers.
6. Both branches of this family of diseases have prevailed from time immemorial, and are governed by the same general causes and influences, and modified by the country in which they may have prevailed and individual habits of the people.
7. It is contagious or infectious in proportion to its visible putridity in individual cases; the infecting power being of short duration. This self-generating power lies in both the breath of the sick, and in the more solid discharges from the affected surfaces. "There is no evidence that, as constantly happens in scarlet fever, the active contagiousness of diphtheria extends to a period of convalescence at which the accustomed duties of life can be resumed." There are some animal poisons which are known to increase in the severity of their action by successive inoculations, and to this class it seems probable that the infectious matter of diphtheria may belong.
8. As in influenza, one attack of the pseudo-membranous disease gives no protection against a future attack.
9. Both branches of this family of diseases have had a great number of names.
10. In New England it has borne bad names among the laity, when in the concrete; membranous croup and "putrid sore throat." In the profession membranous laryngitis (*cynanche trachealis*, obsolete since 1830), and *cynanche maligna*.
11. When prevalent in the fluid branch, it has generally been known by the Italian word *influenza*, or *influence*. For some transient reason it was known as the "Tyler grip" in 1842.
12. It is primarily a local disease, and its immediate effects in the pseudo-membranous branch depend upon severity and locality invaded. The remote results depend upon absorption of the decomposed concrete flux, or membrane.
13. The remote results have a constant relation to the quantity of absorption, which takes place from the throat, little if any being absorbed from the larynx and parts below.

At the conclusion of the reading, President Caswell announced

that, owing to the lateness of the hour, there could be no extended discussion upon the thoughts deduced by the essayist.—*Medical and Surgical Reporter*.

MEMORANDUM OF THE AMERICAN PUBLIC HEALTH
ASSOCIATION ON LEGISLATION AFFECTING THE
PUBLIC HEALTH.

Whereas :—The American Public Health Association, at its late meeting at Richmond, Va., provided for the appointment of a Committee to advise with the Executive Committee with regard to matters of legislation coming before Congress, during the present season, which relate to the subject of Public Health ; and whereas, the Association instructed the Executive Committee to exert its influence to secure each legislation as will best protect the public health of the whole country :

And whereas, the Executive Committee in conjunction with the Advisory Committee have duly considered the various resolutions presented to the Association, and the present condition of propositions for National Sanitary Legislation :

Now, therefore, we the undersigned, officers and members of the Executive Committee and of the Advisory Committee on Legislation of the American Public Health Association, do hereby declare our opinion to be as follows :

I. That while under ordinary circumstances the Association as a scientific body should hesitate to take the initiative in urging any specific legislation, yet at the present time it is expedient to state as precisely and definitely as possible our views as to what action should and should not be taken by Congress with regard to the Public Health, seeing that we believe that there is great danger of unsatisfactory action on this subject from want of proper and sufficient information.

II. That in view of the great diversity of opinion, among those who attempt to judge, as to methods of quarantine, and especially as to the relations which should exist between national and local systems of quarantine—of the fact that we have not as yet sufficient information to enable us to formulate any system of National Quarantine which might not do more harm than good ;—and of our belief that there is a possibility of recurrence of yellow fever in the United States during the coming summer, and which therefore cannot be prevented by any system of National Quarantine alone :—we believe that any legislation, until further investigation has been made, with regard to a National Quarantine, either to provide a new law or to amend or enforce the present one, will be inexpedient and unwise.

We wish, however, that it shall be distinctly understood that we are not opposed to a National Quarantine system, if carefully elab-

orated and placed in proper connection with State and Municipal Sanitary Organizations, but we are well satisfied that it is impossible to organize such a system of the present time.

III. That it is highly desirable that Congress shall, during the present session provide for the proper organization of a Provisional National Health Commission.

IV. That the objects and duties of this Commission should be as follows: *A.* To report to Congress at its next session a plan for a permanent National Public Health Organization, said plan to be prepared after consultation with State Boards of Health, and with all those who possess special knowledge or experience bearing on this subject. This plan should include one for a National System of Quarantine. *B.* That it should take charge of any investigations into the causes and means of prevention of yellow fever or other epidemic diseases which may be referred to it by Congress, selecting experts for that purpose so far as may be necessary.

One of these investigations, at all events, should be made at some point where yellow fever is endemic, and by experimental methods, as suggested in the report of the Committee on the the general report of the Yellow Fever Commission, presented at the last meeting of the Association.

We do not think that this Commission should be burthened with any administrative duties which are not connected with the investigations just referred to, and it should in no manner be dependent upon, or be connected with, any existing bureau or department of the government.

V. That it is of the greatest importance that this Commission should be composed of men well-known for their scientific attainments and knowledge of Public Hygiene. They should be persons with whom all scientific and professional men of the country will be glad to coöperate and advise; to whom no suspicion can attach that they might consult personal interests or ambition rather than the public good, and whose opinions when presented after due deliberation, will command the respect, if not the assent, of all well educated men. Such persons are not common, yet we are well satisfied that they exist, and that their services can be procured for this very important work.

VI. That the proper selection of these men is a matter of difficulty, and one which will require the greatest care. They can only be selected by some man or body of men competent to judge of their scientific attainments and special fitness. Political or local considerations should have no weight in this matter, nor, unless there are grave legal or constitutional objections, should any officer of the government be burdened with, or allowed to assume the responsibility of, selecting them. After careful consideration of various plans proposed to secure this end, which is felt by all to be vitally necessary to success, we are of opinion that the simplest and surest method, and the one which will command the most general

approval among the scientific and professional men of the country, is that Congress should request the National Academy of Sciences to designate the members of the Commission.

VII. That the number of persons in the Commission should not be less than 7 nor more than 9, that they shall elect their own officers, and that their compensation should not be less than ten dollars per day for each and every day that they are engaged in the work of the Commission, besides their travelling expenses. That the Commission shall be authorized to employ such clerical force as may be necessary to carry out its work, and that the Commission shall fix the rates of pay of its employees and of the experts which it may select and employ.

VIII. That an adequate appropriation should be made to meet the expenses of the Commission and of the investigation which may be placed under its direction.

IX. That upon the request of the Commission, the Secretaries of War, or the Navy, and of the Treasury or other Departments, and the Attorney-General shall be authorized to detail officers from their several Departments to aid in the investigations undertaken, the number so detailed not to exceed three from any one Department at the same time.

X. That it is highly desirable that there should be added to the Standing Committee of the Senate and House of Representatives, a Committee on Public Health.

XI. We are entirely convinced that the future of Public Hygiene in this country depends mainly upon the proper organization of State and Local Boards of Health, and upon such organization of State and utility by the people and their legislators that the necessary means and powers shall be granted to them to enable them properly to perform their duties. We believe that the general government can do much to stimulate and encourage the formation of such Boards, and that an important part of the duty of the Provisional National Health Commission which we have recommended, will be to point out what can best be done to forward this object.

Such Boards can do good work, not only for their own locality, but for the nation, and if the nation will pay for this work, it will be most cheerfully done, especially if a proper Central Health Organization be arrived at, with which they can coöperate, as we hope and believe will be the case if the plan which we have suggested be carried out.

XII. In conclusion, we would state that in our opinion the true interests of Public Health and of Sanitary Science in the United States are in grave danger at the present time, and that it is the duty of all professional and scientific men, both as individuals and as members of learned societies, to endeavor to prevent premature legislation which is now threatened, but which we believe the great majority of our National Legislators will oppose if properly informed upon the subject.

[Signed]

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MECHANICAL RESTRAINT FOR THE INSANE.

Dr. I. (saac) R. (ay) in a review in the *American Journal of the Medical Sciences* of the works of Dr. Lindsay and Dr. Bodington on non-restraint in the treatment of the insane, gives us his very decided opinion of the way this vexed question stands just now.

The advocates of non-restraint have taken great pains to promulgate their teachings, but by the showing of the books reviewed these English teachers have not practiced what they preached.

"That we are not mistaken," says Dr. Ray "is abundantly shown by Dr. Lindsay, who tells us that restraint is used in many of the largest hospitals and private asylums in England and Scotland, and even in some, where it is supposed to be prohibited. His testimony, accompanied as it is, by names, and other circumstances, settled this question, and we hope never more to be reproached for not following a method of management triumphantly established in Great Britain by universal consent." We only wish to show, says Dr. Ray, "that the statement so confidently made, both here and abroad, respecting the abandonment of all mechanical restraint, is not true, and that the obloquy attempted to be fastened upon us, for preferring the old ways is utterly undeserved."

It is a great relief then to know that American Superintendents of the Insane Asylums are not the bunglers Dr. Bucknill would have us believe they are, and that their practice is based upon the necessities in individual cases, just as they do in England and elsewhere.

EDITORIAL NOTICES.

REED & CARNICK'S Maltine advertise elsewhere possesses the qualities of similar preparations, while it has also some of the pleasanter qualities as a beverage. Malt and its preparations may now be considered an addition to our standard dietary, and medicines.

WINE FOR INVALIDS.—It is well known that there are cases when the most strict advocates of temperance are obliged to use some

sort of Wine, especially those who are old and infirm. Many weakly females as well as invalids and debilitated persons in warm weather need a little strengthening wine. The great difficulty has been in procuring a rich port that is reliable. There are many cases where Wine would be used to great advantage in place of alcoholic drinks if only a genuine article could be had, and upon which physicians could rely as being strictly pure, without alcoholic admixture. The Port Grape Wine of Alfred Speer, of Passaic, New Jersey has been analyzed by chemists in nearly every State, and have always been proved strictly pure and beneficial. The Port Wine is now being used in hospitals and by families for medicinal purposes, also by Churches for Communion service. It is principally sold by Drug-gists. Mr. Speer's mode of conducting the fermentation is such as to retain the rich flavor and sweetness of the grape without much fermentation to create stimulative properties.—*Transcript*.

Additional proof of the superiority of Warner & Co's. pills :

Pil : quin. sulph. sugar-coated. Warner.

In a minute the coating began to dissolve, and was completely dissolved in five or six minutes.

Water milky from sugar-coating.

Surface crumbling.

Surface crumbles, leaving liquid opaque. Broke up completely after an hour and a half.

The above was the result of an experimental comparison with the pills of some of the best manufacturers in the country.

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If you will try to imitate COLDEN'S LIEBIG'S TONIC you will be convinced that it is a preparation from the hands of a skilled compounder. Its medicinal virtues cannot be more highly extolled.

BOOKS AND PERIODICALS RECEIVED.

On Fracture of the Femur, by Edward Borck, M. D., with illustrations. St. Louis. Geo. O. Rumbold & Co., 1879.

A case of so-called Xeroderma (or parchment skin) of Hebra. By Louis A. Duhring, M. D., Professor Skin Diseases, University of Pennsylvania.

Second Annual Report of the State Board of Health of the State of Wisconsin for the year ending December 31st, 1877.

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Illustrated Catalogue of Surgical Instruments. Manufactured by Shepard & Dudley, New York. Instrument makers by special appointment to New York State Hospital, the New York Eye and Ear Infirmary, the New York Ear Dispensary, the Roosevelt Hospital. December, 1878. Price 50 cents. As a book of ready reference for suggestions of mechanical surgical devices alone, this volume is worth the price. Many of the surgical text-books of twenty years ago are far inferior on points of great, practical importance in answering the question "What shall now be done with my patient?" We advise our readers to secure a copy.

NORTH CAROLINA MEDICAL JOURNAL.

M. J. DeROSSET, M. D., }
THOMAS F. WOOD, M. D., } Editors.

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COUNTRY CLINQUES.

IV—FIVE CASES OF POISONING—1. OPIUM. 2. BELLA-
DONNA. 3. GELSEMIUM SEMPERVIRENS. 4. FOWL-
ER'S SOLUTION. 5. CORROSIVE SUBLIMATE.

BY A NORTH CAROLINA PHYSICIAN.

1. Bettie R., white, æt. 30 years, with suicidal intent, swallowed upwards of 1½ fl. ozs., of officinal tincture of opium. In half an hour she was fast asleep, and every effort failed to arouse her. I saw her about midnight. Her face and extremities were cold and livid, eyes glazed, half open, pupils moderately *dilated* and immovable. Pulse was imperceptible, the heart's action feeble dicrotic, irregular with not more than forty contractions in the minute. Respiration consisted of a series of two or three feeble gasps, with complete intermissions of from one to two minutes. There was complete anaesthesia, and muscular relaxation. Selecting the warmest part of the body, I injected under the skin of the præcordial region 1-12th gr. of sulphate of atropia M. x of a solution of gr. iv. to ̄ i.) Ten minutes later the positive pole of a strong interrupted current from a Galvano-Faradic apparatus was applied to the mid-

dle of the neck behind the sterno-mastoid muscle, and the negative pole to the epigastrium. The application was continued ten minutes, with the effect of increasing the number of gasps to six or eight, and the heart beats to over fifty per minute. Two similar doses of atropia was injected at intervals of one hour, the battery being frequently used to stimulate the flagging respiration. At 3 A. M., the pupils were widely dilated, and although the eyes remained opened and fixed, the lids contracted slightly when the conjunctiva was touched, and on applying the battery, there were slight convulsive movements of different parts of the body. The pulse, though barely perceptible was seventy, and respiration twelve to the minute, sometimes stertorous, sometimes superficial and still disposed to intermit. Friction of the extremities had been continued all this time. I now directed patient to be stripped entirely, the whole surface rubbed with flannels wrung out of a strong decoction of red pepper. At 4 A. M., the skin was warm, the eyes closed, and moaning and restlessness were elicited under the harsh treatment. By 5 A. M., the stomach, which, soon after taking the poison, had been well supplied with mustard and household emetics, began to reject its contents. Strong coffee was given in large quantities, and emesis encouraged. The smell of opium could be distinguished in the ejections for several hours. Patient was kept aroused until afternoon. She happened to be very ticklish and this circumstance was taken advantage of, with cruel persistency. During the day bruises became visible upon her face and person, from the violent efforts which had been made to arouse her before my arrival. On some parts of the body, redness and swelling were occasioned by the red pepper, but disappeared in a day or two under the local use of sweet oil.

2. C. W., white, æt., 20 years, was in the last stages of laryngeal phthisis. To relieve the exhausting night-sweats and allay the harassing spasmodic cough, a teaspoonful of a mixture containing 1-60th grain of atropia to the fl. drachm, was directed to be taken at bed time. By mistake, a tablespoonful, i. e., 1-15th grain was administered. Two hours afterwards, I found him lying upon the bed, in a stupid sleep, with harsh, stridulous respiration, eyes open, and pupils widely dilated. Skin was cool and dry, circulation good, the pulse showing no appreciable change from the feeble quick

character it had at previous visits. When roused, patient looked around with a vacant, dazed stare, and in a husky tone gave utterance to a confused medley of oaths, prayers, &c., sometimes wildly laughing, again crying hysterically, his arms and limbs meanwhile moving about in an uncertain jerky way. He would scratch and rub and even grasp the throat, as though to remove an obstruction, and there was a constant effort to close the fauces, either by swallowing, or by hawking and expectoration. The scanty sputa consisted of white, frothy, viscid saliva. After a few moments he again lapsed into a stupid slumber. Reasoning that the effects of the poison had reached their greatest intensity, and considering that the symptoms did not justify violent antidotal treatment, I waited for indications, and in the meanwhile did nothing. In a couple of hours, my patient was, though still drowsy and stupid, able to give intelligible answers to my questions, and describe his sensations. There were hallucinations of both sight and hearing. An ordinary tone of voice sometimes sounded to him like the faintest whisper, and again reverberated in his ears like thunder. Sounds, otherwise familiar, gave rise to the strangest associations, and distorted fancies. Objects assumed not only exaggerated size, but the most grotesque and fantastic shapes and colors. These illusions gradually disappeared in the course of the day, during which patient slept refreshingly at intervals. Pupils remained dilated for twenty-four hours, and two days elapsed before reading could be done with comfort. For more than a week, both night-sweats and cough were much relieved, and no permanent ill resulted from patient's unfortunate mistake.

3. F. H., white, an interesting boy of two years, of a nervo-sanguineous temperament was affected with catarrhal fever, for which the attending physician prescribed fld. ext. of gelsemium, two drops every three hours. The medicine was dispensed at a drug store, in what is called a French oval vial, i. e., having two long sides oval, and meeting at each extremity of the oval in a shorter square surface. The druggist wrote the directions as follows: "Two (2) drops every three hours." The word "two" and the first parenthesis mark were on that part of the label which was pasted on the flat side. The second parenthesis consisted of a short nearly straight line, the word "three" being written under it. In

looking at it from the front, a casual observer would have read "21 drops every three hours." This quantity was given, and in a few minutes the child sank into a quiet slumber. It was half an hour before the mother was attracted by the death-like quiet of its sleep. An attempt to arouse it, met with complete failure. Raising it from the bed she found it cool, pallid and perfectly limber. Physicians were immediately summoned, and efforts made to administer emetics; spirits were injected into the bowel, and friction and counter-irritation attempted. Later, electricity was tried. Nothing availed, and in a little more than an hour after taking the dose the child was dead. Twenty minutes before death—when I first saw it—its condition was as follows: The skin was cool to the touch, of a ghastly pallor, but without lividity. The eyes were half open, dull and staring. Through the parted lips, which were of an ashy hue, issued a frothy saliva. There was total insensibility. Every muscle was relaxed, and the weight of the different parts of the body alone determined their position. Respiration consisted of a feeble sigh, about fifteen times a minute. The pulse was not perceptible, but the heart contracted feebly and intermittently about forty times in a minute. The symptoms appeared to be due to paralysis, first affecting the voluntary muscles generally, and rapidly extending to the vital centres. Death occurred without a struggle, the heart failing before the lungs ceased to act.

4. The writer, while suffering from fever, supposed to be malarial, and after taking large doses of quinia without benefit, was advised by his medical attendant to try *Liq. potassæ arsenitis*. Ten drops of this, with an equal quantity of deodorized laudanum were given every six hours. Two hours after the third dose, he was seized with violent abdominal pains, radiating from the umbilicus. The pains were at first intermittent, but speedily became continuous, and were so severe that the sufferer was obliged to cry out in his agony, and the surface was bathed in a cold perspiration. Hiccough and retching were present. The hypodermic injection of $\frac{1}{2}$ grain of morphia promptly relieved the pains, which, however, returned with scarcely less severity at the expiration of a few hours, and rendered opiates necessary at intervals, for forty-eight hours. Abdominal soreness and tenderness persisted, and the stomach remained irritable for a week or more. During this time the most absurd and fright-

ful illusions disturbed the mind. One which frequently recurred, was to the effect, that the writer was in pursuit of his head, which attached to his body by only a slender elastic cord, was being dragged by goblins over some rough rocky hills, in the neighborhood of some patients, who had been visited just before his illness. The striking against the sharp stones, the fear that the cord might snap, the disappointment as the head was again and again jerked out of the eager grasp, were all experienced with frightful vividness. The force of the poison apparently spent itself upon the smaller intestines. Painful tormina preceded every evacuation for several days; and the dejecta, which were horribly offensive consisted largely of black, disintegrated blood, and shreds of mucous membrane. Larger pieces and even casts of the small intestine, several inches in length, were found.

5. Mrs. R., a delicate nervous woman of 40 years, was attacked with violent iritis. I saw her in consultation, 24 hours afterwards. There was intense pain and photophobia, the sclerotic and conjunctival vessels were much engorged, the pupils contracted and of a grayish hue. The instillation of a solution of atropia, revealed extensive adhesion to the lens. I advised the continued use of atropia, blisters to the temples,—(no leeches, either natural or artificial, were available,)—and internally 1-6th grain of corrosive chloride of mercury in mucilage, just after each meal. Upon administration of the second dose, symptoms of gastritis ensued. Had suitable remedies been employed, the inflammation could doubtless have been much moderated, if not actually prevented. It was two hours before the attending physician finished his abuse of me, and caused patient to swallow some raw eggs. I saw no more of the case, but learned that for several days the lady's life was despaired of. The iritis promptly subsided, in the presence of the more formidable inflammation.

V—THREE CASES OF STRANGULATED HERNIA.

1. Mrs. S., æt. 46 years, an industrious widow, had been annoyed for sixteen years with a large femoral hernia of the right side. She wore no truss, the hernia protruding while she was on her feet, and

generally returning of itself, when she lay down. Sometimes she had experienced difficulty in replacing it, and once it had been down for thirty-six hours. During the last few hours of this time she suffered considerable pain, and vomited freely; but finally the bowel was reduced, without her being able to tell exactly how. Shortly after this, the hernia having been down all day, she was again attacked with severe pain and vomiting. Trusting to the same chance which had befriended her on the preceding occasion, she delayed sending for a physician for twenty-four hours. I saw her thirty-six hours after symptoms of strangulation appeared. Taxis had been persistently attempted, and the parts were so exquisitely tender that she shrank from the slightest touch. She would not consent to be etherized, when I told her that I should proceed to operate, if very slight taxis did not afford relief. I was dismissed, only to be sent for twenty-four hours later. Her condition was that of marked collapse—*facies Hippocratica*—cold extremities, feeble pulse, and labored respiration. Pain and vomiting continued. The hernia had much increased in size, approximating that of one half of a Seville orange, with a marked convexity, and high-toned tympanitic resonance. The skin over it was of a purplish hue, and inclined to be cedematous. Tenderness was much less than the day before. I anticipated sphacelation of the intestine and so informed my patient, but she demanded the operation now, as obstinately as she had the day before refused it. Having etherized her, and shaved the groin, I made a longitudinal incision, commencing at Poupart's ligament and extending over the greatest convexity of the tumor. Primed, as my memory was, with the list of fasciæ and tissues, with which theoretical surgery covers a hernia, I was much surprised when the bowel protruded through the wound, before I had completed my first incision. The knife had not penetrated deeper than 3-16th of an inch, and the very slight gaping of the wound would otherwise have led me to infer that I had not yet divided the subcutaneous cellular tissue. The bowel was not wounded. Continuing my incision upon a grooved director, I found that the much attenuated deep fascia *alone* constituted the sac of the hernia. Its contents were convolutions of the small intestine, of a dusky red hue, and with grayish spots varying in size from a pin's head to a three cent piece, upon its surface, which was sticky and

glistening. The bowel was so filled with gas, that I found difficulty in ascertaining the point of stricture. I accordingly punctured it with a hypodermic needle, and allowed the gas, which was very offensive, to escape. With a probe pointed bistoury, I very slightly nicked the upper edge of the saphenous opening, and a little manipulation sufficed to replace the bowel. A more careful examination confirmed the fact of the obliteration of the hernial sac by agglutination with the deep fascia of the thigh. At the lower end of the wound, they could be separated, and a probe passed between the two. To a less extent this was also the case above, but over what had been the most prominent part of the hernia, the connection was complete. The wound was closed with interrupted sutures of silver wire, and additionally secured by a compress and figure of eight bandage. Patient recovered quickly from the anæsthesia, and expressed herself as feeling comfortable. But there was no reaction from the collapse which preceded the operation, and she died twenty hours afterwards. At no time was there marked tympanites, nor had there been much abdominal pain, except in the immediate vicinity of the hernia. A post-mortem examination was not permitted.

2. Mr. T., æt. 70 years, was from an early age, the subject of a large scrotal hernia of the right side. By long experience, he had acquired great skill in the taxis, and had several times replaced the hernia, after physicians had failed in the attempt. His practice was to grasp the hernia, which was as large as two fists, with both hands, and while pulling upon it with some force, rotate it rapidly upon its neck as an axis. His good luck as well as his skill at last failed him, and I was sent for after he had been vomiting and suffering pain for a night and a day. According to his description, the hernia was this time larger than ever before, the increased size, being most noticeable just outside the external abdominal ring. At this point I thought I distinguished convolutions of intestine, and percussion elicited resonance, while below there was dulness. I had no anæsthetic with me, and taxis availing nothing, I punctured the resonant portion of the hernia at several points, with a hypodermic needle. Considerable gas escaped, which markedly diminished its size. Turning to lay aside my needle, I was agreeably surprised to hear the characteristic rumbling gurgle, which denotes the return

of a hernial protrusion. The moment I turned away, the old man commenced his pulling and rotating manipulation which resulted in immediate relief. No unpleasant results followed the punctures. I regard the procedure as harmless, if carefully done with a small needle, and believe that if I had thought of puncturing the bowel at my first visit to Case 1, she could have been relieved of what proved to be a very slight stricture, without an operation, and in time to save her life.

3. Mrs. S. æt. 52 years an intelligent monthly nurse, was suddenly seized with abdominal pain and vomiting. I saw her eight hours later. She was suffering extremely, and vomiting almost incessantly. She referred the pain to the right groin, and told me that many years ago she had had similar attacks—that then a tumor as large as an inverted tea cup had appeared at the spot, and the symptoms had only subsided after its reduction by a physician, since dead, who had informed her that she was ruptured. During the last few years she had occasionally suffered with pain in the abdomen, which appeared to radiate from the right groin, and a small lump, which she assured me had doubled its size that day, had always been present since she was told that she was ruptured. Half a grain of morphia, administered hypodermically, quieted her sufficiently to make a thorough examination. I found a tumor directly under Poupart's ligament, and over the saphenous opening, rather flat, with a reddened surface, and about the size and shape of a hen's egg. It was dull upon percussion, very sensitive, and only slightly movable. The abdomen, except in the immediate vicinity of the tumor, was not sensitive to pressure. Cough did not communicate an impulse, but the effort to cough was most unsatisfactory, on account of the pain it caused. Patient had been costive for several days, and the attack came on while violently straining at stool. I concluded that I had to contend with a case of strangulated hernia; and the symptoms being urgent, I called into consultation a medical friend of large experience, who confirmed my diagnosis, and recommended immediate action. The patient resigning herself to our judgment was thoroughly etherized, and taxis tried, *secundum artem*. This failing, the tumor was punctured in various places, particularly at its upper part (as we thought it possible that only a small knuckle of intestine might be involved), with a hypodermic needle. Upon

applying suction, a little bloody serum, without odor, was withdrawn. Taxis again failing, an incision was made over the most prominent portion of the tumor, and the tissues carefully divided. Beneath the fascia propria, a sac was reached, which above appeared to be continuous with the fascia—at least no opening into the femoral sheath could be discovered. The sac was accordingly opened, when a little serous fluid escaped. The contents of the sac, not in the least engorged, were a firm, smooth, gland-like body, covered with a membranous envelope, and adhering to the walls behind, and to the neck-like portion above. Apparently, it was the remains of a former mental hernia, and our diagnosis of strangulated hernia was an entire mistake.

Before closing the wound I embraced the opportunity of examining into the effects of puncturing deep tissues. The serum which escaped upon opening the sac was without admixture of blood. The punctures could scarcely be discerned by a minute red point on the inside of the sac, and on the contents of the sac, not a trace of their entrance could be found, although both tissues showed plainly a free vascular supply.

Knowing now that we had to deal with an intra-abdominal obstruction, and being unable after most careful palpation, to locate it, we elevated the hips, and slowly injected more than a gallon of tepid water into the bowel. Similar injections were repeatedly given during the next twenty-four hours, the abdomen meanwhile becoming tympanitic, and the bowels rolling as though endowed with separate existence. Morphia was given hypodermically at intervals of eight hours, to relieve the excruciating pain. On the day after the operation, a marked prominence with high pitched resonance, was detected in right side, on a level with the umbilicus, and patient now referred her pain to this spot. The stomach would retain nothing and large enemata having failed to relieve the obstruction, they were discontinued, and nourishment attempted by the rectum. Patient sank rapidly. On the fifth day, the vomited material had a distinct faecal odor. Electricity had already been used, one pole being placed at the arms, and the other passed over the abdominal surface. In the hope that I might accomplish more, if the bowel could be directly acted upon, I attached a good sized catheter wire to one pole of my battery and slipping the elastic rubber upon it, I

cut off enough of this to allow me to screw on the end of the wire a small brass knob from a Leyden jar. Having covered the knob with buckskin, I passed my improvised electrode upon the sigmoid flexion, and, the other pole being moved about on the abdomen, I made a few minutes application of an interrupted current (as strong as patient, under the influence of morphia, could bear) from a Galvano-Faradic apparatus of one large cell. Patient expressed herself as feeling *differently*—although not relieved—after the application. Four hours later, I found her passing black, tarry, horrible, offensive material from the bowel. Recovery was rapid, and she contends that her relief was due to the use of the battery, as above described. The stools were carefully examined, but no trace of sphacelated or cast-off intestine, was at any time found.

"CASCARA SAGRADO" AGAIN.

We notice that the article published in our October number, from the pen of Dr. W. P. Gibbons, referring to certain "new remedies" so called, of California origin, has been misinterpreted in some quarters as denying medicinal virtue to the plants in question. This was not its design, nor did the therapeutic value of the remedies enter into consideration. The object was to expose the deception of introducing preparations of old remedies under new names and claiming originality without deserving it. Several of the plants in question are really valuable.

Whilst on the subject we will correct an error in spelling *Cascara* (bark) *sagrada* (sacred) is the common Spanish name of the *Rhamnus Purshiana*, and means simply *sacred bark*. The adjective should end in *a* and not in *o* as it is commonly spelled. The old Spanish or Mexican population of the coast had a number of medicinal herbs which they employed in default of officinal plants. Not knowing the botanical names, common names were given indicating their supposed good qualities. "*Yerba santa*" was holy herb, "*Yerba buena*" good herb, and so on.—*Pacific Medical and Surgical Journal*.

NOTES ON SYPHILIS.

SYPHILIS OF THE BRAIN.

By THOMAS F. WOOD, M. D., Wilmington, N. C.

T. G., a young man aged 27 years, consulted me for syphilis. He had a solitary chancre on the glans, now nearly healed, but still having a hard base. There was also an indurated bubo in the left groin. He had been taking medicine from a druggist for three months before he consulted me, but had not followed the directions with any regularity, he tells me.

At this day (May, 1878) he was emaciated, and presented a forlorn appearance. After exacting from him compliance with my rule, that he must remain under observation twelve months, I commenced the treatment with minute doses of bichloride of mercury (1-32 gr.) three times a day. His improvement was so substantial that in three months he had regained his loss of flesh, and his visits to my office became more and more infrequent until the latter part of July he presented himself daily with malarial neuralgia. For this condition I gave cinchonidia in drachm doses daily, with hypodermic injections of morphia.

The weeks preceding his attack of malarial neuralgia, he had suspended the mercurial upon his own responsibility. The cinchonidia had little effect in lessening the intensity of the neuralgic paroxysms, apparently, but relief having been temporarily effected, he became careless. I again lost sight of him until he returned to my office early in August with syphilitic iritis of the right eye.

In order to control him better I was obliged to confine him to his room, using atropia solution to his eyes and hypodermic doses of morphia to relieve pain. The case of the iritis was completed without anything unusual, but the patient had been salivated under the influence of a mercurial solution of calomel in iodide of potassium.

Recovery from the iritis did not rid him of the facial neuralgia and headache, and long after the influence of the atropia had worn off the pupils were largely dilated in a bright light, contracting very slowly, and sometimes not perceptibly.

Day by day the patient became more apathetic about affairs

around him, responding to questions intelligently when his attention was fixed but soon lapsing again into hebetude and listlessness.

At this time there was a copious flow of saliva, long after the mercurial salivation was overcome. The tongue was thickened, and seemed not to respond readily to the will of the patient. At times it was difficult to make out what he was saying by the closest attention.

At this stage of his disease my diagnosis was syphilis of the brain, as yet not localized. I directed 10 gr. doses, three times a day, of iodide of potassium, but after three or four days, gastric irritation was brought on and the medicine suspended. This brings the case up to November 1st.

New symptoms now set in. The patient slept on all occasions, and when aroused from his sleep would start up with a vacant stare, and on attempting to walk reeled like one drunk. His articulation, with dribbling of saliva made the picture of (syphilitic) intoxication complete. The patient had to be constantly aroused for ordinary duties, and his bowels were so sluggish that they yielded only to large doses of epsom salts.

Nov. 10th. The pupils are dilated to-day in a bright light, and there is the same vacant stare, and he has flushing of the face. His appetite is quite good, and he responds to questions propounded with more vivacity. He expectorates largely, but does not dribble. In getting on his feet to walk, he at first staggers, but soon regains his aplomb. His muscular endurance is greatly diminished. He is anxious about his slow recovery and wants to know "How long?"

Nov. 15th. He has been gloomy and listless for a day or two, and goes to bed several times a day with his clothes on, and stays there until urged to get up. Chews tobacco in large quantities and spits everywhere. His eyes remain unchanged since the 10th. Solution of bichloride of mercury (1-32 gr.) and iodide of potassium (3 gra.) in solution with water are given three times a day, to be continued until further orders.

Nov. 23d. His condition is not so good. He talks somewhat at random with the same lingual impediment. His brows contract when he comes into the light, and his pupils contract very slowly, never reaching the normal contraction. There is no synechia to

account for this ; the pupillary circle is symmetrical. He is weaker and not so much inclined to sleep in the day. He asks to have morphine injected for pain in his head, which is declined by me, but he prevails on one of my medical friends by a subterfuge to give it to him. He acts like an opium eater in some respects, and I become so much impressed with this fear, that I call the attention to his friends that they may observe him more closely. Nothing is discovered to bear out my suspicion.

Nov. 30th. He is inclined to wander about. Gets his meals and accompanied by his little brother wanders until meal time again. His peculiar manners attract passers by on the streets. He stares at them with his wide-open pupils without seeming to recognize any one. He is subject to hallucinations. Has talked all day about a prescription for some pills I had given him, and wants me to look at the paper to see if it is all right, searching again and again in his pockets without finding anything. The next day he comes to get a set of jewelry some friend said I had for him, but is easily convinced that something is wrong with him.

He has been taking now for thirty days tr. nux vomica, 15 drops three times a day, and 1-32 gr. of bichloride of mercury, with 3 grs. iodide potassium, three times a day. His food has been generous and nourishing and he is in fairly good condition. He walks with little hesitation.

Dec. 12th. On examination to-day he appears to have improved. The pupils respond promptly to light ; the gait is steady but slow ; but there is still left a peculiar silly air, and obtuseness not natural to the patient. The bichloride solution and tinct. nux vomica still continued.

Dec. 14th. He complains of pain in the head. The pupils are not so sensitive to light as on previous examination. The pain now, he is able to locate in the right side over the orbit, and directly backward to the occiput. It comes on in paroxysms, where, as heretofore, the pain never entirely left him. Morphia is resolutely withheld, however, and he is encouraged to persist in the treatment.

Dec. 25th. He has been drinking on this one or two subsequent days, but his appearance has greatly changed. He is in better flesh, and his intellectual faculties are brighter.

Jan. 25th. He is almost entirely restored, and is anxious to go

to work. His improvement under the daily use of mercury up to this time has been so great, that he is advised to suspend it, but to report as soon as the first bad symptom presents itself.

Case II. Robert C., aged 28, was admitted to the Seamen's Home Hospital, October 9th, with chronic ulcer of the leg. "He is a pale, anemic, and generally dilapidated American sailor. There are two or three cicatricial stains near the site of the present ulcer at the ankle. Two weeks after admission a rodent ulcer appeared on the corona glandis which was not observed before." He states that he had a chancre just before he shipped last time, about Sept. 4th, 1875. He thought it was all healed until now. He says he had syphilis sometime ago, but no buboes resulted.

He was attacked after admission with tertian ague.

His ulcer was washed with solution of chloride of zinc, and dressed with lead cerate to which was added carbolic acid.

The constitutional remedy first employed was : syr. ferri. iod. $\bar{5}$ i.; potassii iodidi, 3 ij., aquæ ad., $\bar{5}$ ij. Dose, teaspoonful three times a day. This was continued three months. His ague was treated exclusively with cinchonidia, and successfully. His ulcer was cured at the time of his discharge from the hospital.

Dec. 16th. Patient was readmitted. While waltzing with a ship-mate, he fell in an epileptic fit. On admission, one hour after attack he was pale, and bewildered; his pupils widely dilated, not responding to the light of a lamp. He cannot protrude his tongue. It is thickened, and covered with white coat. He is aphasic, halting at labials. A solution of bromide of potassium is ordered, and he is to be closely watched during the night.

Dec. 17th, 10 A. M. His pulse is slow, temperature normal, tongue enlarged and furred; memory all gone; has no recollection of his attack; pupils not responding to light; halts at words commencing with labials, and answers in a few not very coherent words.

Dec. 17th, P. M. The pupils are more sensitive to light, but aphasia still exists. There is no paralysis to be discovered. The tongue which has been protruded for the first time on request is found to be wounded by the teeth; the indentation of the teeth is well defined, which is due to the great enlargement of the tongue.

Dec. 18th, A. M. Memory is recovering. He remembers that just before his attack he had been stooping over his work and felt

light-headed ; he thought this was the cause of his attack. Had never had a fit before. He has still an air of bewilderment, and is anxious to return to his vessel, as he is has already overstaid his time. He expectorates largely, of pure saliva. On rising from the bed, he totters and is obliged to sit down again. His hands are tremulous, and his general appearance is that of a man recovering from a deep debauch.

Iodide of potassium in five grain doses, in solution with extract sarsaparilla and water, is given three times a day, and purgatives ordered. From this date he continues to improve, although anemia is persistent.

He is discharged December 31st greatly improved, although easily fatigued by slight exertion. He has been favored by his captain with light duty in consideration of his condition.

January 15th. He has reported for examination. He has been gaining strength and flesh, and is able to do duty as usual. He has enlargement of post-cervical glands, and a few pustules on the scalp covered by the hair that no diagnosis was made. The post-cervical enlargement is evidently a remnant of syphilis.

Remarks.—These two cases are evidently due to syphilis. The time elapsing between the initial sore and the grave constitutional symptoms was barely twelve months, in the first case, a course unusually rapid, but quite agreeing with a remark of Bäumler: "Syphilitic affections of the nervous system occur mostly during the tertiary period of the disease ; but this rule is not without exceptions, since grave nervous systems may occur at quite an early period—in the stage of eruption.—*Ziemssen's Encyc.*, V. III, p. 220.

In the second case the course of development agrees more closely with the classical description of syphilis of the brain. In both cases I had pronounced a favorable prognosis, although restoration was so long deferred that I began to doubt the wisdom of it. Both patients recovered under the anti-syphilitic treatment, or to speak more accurately, both were bridged over what seemed to be the imminent danger of brain destruction or paralysis, and while not restored to as healthy condition as formerly, the treatment accomplished all that could reasonably be expected. In Case II, I saw what is in my experience a rarity, viz. : a recurrent chancre. On only one other occasion have I ever witnessed such a thing, and I

was very incredulous about its authenticity, inclining to the belief that it was a fresh inoculation in spite of the denial of the patient. I referred the case to Dr. Bumstead, who suggested that it would probably turn out to be a phagedenic chancre, which was the case. Singularly enough this patient died with syphilis of the brain and cord, in the hands of Dr. G. G. Thomas, who kindly called me into consultation, thus enabling me to follow the clinical history through many years.

A review of my limited experience inclines me to believe that syphilis of the brain is more common than we suspect, and that more cases of epilepsy coming on in adult life are due to syphilis than was formerly believed. I am also impressed with the necessity of pursuing steadily the anti-syphilitic treatment, and commencing it before any lesion of the brain or cord occurs. In the early recognition of the disease, and the undeviating treatment by mercurials or iodide of potassium, restoration can be looked forward to with confidence.

A recent lecture by Dr. W. H. Van Buren in the *Medical News and Library* has done no little to re-assure me in my study of these cases.

IODINE IN MALARIAL FEVERS.

J. H. Hervey, of Indianapolis in the *Cincinnati Lancet and Clinic*, claims to have been using the above remedy for the third of a century. He has never considered it a substitute for quinia in arresting the paroxysms of malarial fever, but finds it to be very serviceable in removing the various sequelæ and in preventing relapses. His custom is to use the following formula :

℞ Tinctura iodinii,
Tinct. ferri chloridi,
Tinct. sanguinariæ.....ââ equal parts.

13 to 15 drops to be taken after each meal for one to four weeks. This is used after the recurrence of the paroxysms has been arrested with quinia, and the latter is also continued in one-grain doses, before meals, for eight to ten days.—*New Remedies*.

SELECTED PAPERS.

THE YELLOW FEVER AT HAVANA—ITS NATURE AND TREATMENT.*

By CHARLES BELOT.

Pathological Anatomy.—The examination of dead yellow fever subjects does not always offer the same organic alterations. As cerebral lesions predominate, the abdominal organs are more deeply affected. The ganglions springing from the great sympathetic nerve and forming the solar and semi-lunar plexus, are always more or less involved. The spleen almost always hypertrophied, is filled with blackish incoagulable blood. The blood itself is deeply altered; it is found decomposed in the stomach and intestines, often without there having been any indication of this during life.

The exterior aspect of the dead body is ordinarily hideous. The color of the skin varies in every tint of yellow, as with the dead of jaundice, when the disease has been extremely severe.

Brain—In cases where the brain has suffered most, in the continued type for example, where the patient dies suddenly from the third to the fifth day, with visible marks of cerebral congestion, the arachnoid is red, with evident softening of the encephalon, abundant reddish serum in the ventricles, and the choroidal plexus is filled with black blood.

When the disease has lasted from ten to fifteen days, and life passes away in delirium, there often exists an effusion of serum. But with those who have not suffered directly on the brain, this organ is found in its natural condition.

Spinal Marrow.—This is more or less gorged with blood in proportion to the spinal congestions.

Lungs.—Heart.—The lungs and the heart have not presented to me anything special. The pericardium sometimes contains a large

*Translated by Col. John Scriven, of Savannah, Ga., who was so impressed with Dr. Belot's memoir that he has with commendable skill and diligence given the paper to the public, "feeling that humanity may claim any contribution, that could tend to prevent the recurrence, and alleviate the suffering, and diminish the fatality of the yellow fever epidemic, of which he was a witness in 1854 and 1876."

quantity of serum ; the cavities of the heart enclose blood in more or less quantity without special alteration.

Abdomen.—Very often no alteration is discovered in the stomach. There is found a quantity more or less of dark liquid of a peculiar faint odor. This is the matter of black vomit. The quantity of this liquid is such sometimes that on the least movement of the dead body, it flows out of the mouth and nostrils. Washing the stomach, the mucous membrane is found to be softened, with reddish stains here and there, or particles of waste substance of the size of a pin's head, or layers so incrustated, that they cannot be raised by the handle of the scalpel. I have twice discovered deep ulcerations in this organ. The capillary vessels are more or less engorged with blackish brown blood ; yet these disorganizations are not constant, and often as we said, the stomach shows scarcely any or no alterations.

The mucous membrane of the œsophagus, and that of the intestines, exhibit very nearly the same characteristics as that of the stomach, only in less degree.

On the exterior of the intestines are found stains sometimes yellowish, again deeper—of a red black, which correspond with the alterations of their internal face. Sometimes there is also found either a bilious, or the same black substance, as that found in the stomach.

The abdominal glands are often in a normal state ; the mesenteric glands tumefied, Peyer's glands engorged or ulcerated.

The ganglions which form the solar plexus are red, and, at some points black. The semi-lunar ganglion and the cœliac plexus present the same alterations—pressed between the fingers, they are easily crushed.

Liver.—The liver, which should be deeply modified after a disease, in which it performs so great a part, often presents no alteration, if no intercurrent inflammation complicates the disease. Ordinarily, it is pale yellow, sometimes softened, at other times resistant under the knife, or again dry and brittle.

Cut across, it presents little black points, more or less filled with blood ; the *gall-bladder* is empty or contains a viscous mass of concentrated bile, deep brown or black.

The spleen, often augmented in size, is gorged with black blood.

The kidneys offer no alterations, if they have not been the seat of local inflammation ; but this complication is rare.

The bladder, sometimes empty, contains blood in certain cases, or the urine is colored, like a concentrated infusion of rhubarb.

In general, with the exception of the black substance contained in the stomach and intestines, the autopsy offers nothing constant, if there is no alteration in the ganglions, which form the solar plexus. If the brain shows a condition indicating affection of this organ, this is not constant—these alterations are the same, as those observed in the cerebral form of typhoid fever. As much may be said of alterations in the intestines, which are identical with those produced by the abdominal form of typhoid fever.

Differential Diagnosis.—In the precursory period, the symptoms vary essentially according to the temperament of the individual atmospheric changes, and the circumstances under which the disease is produced. It is then upon the *ensemble* of symptoms, and the probabilities furnished by the condition of the locality, that the physician first bases the elements of his diagnosis. So in summer, or it matters not in what season of the year, if there are great variations in the temperature ; if called to a foreigner who presents any of the symptoms we have enumerated, he will be prudent in supposing, that he will have to treat a case of yellow fever, especially, if any other well defined cases exist in the same locality or in the neighborhood. Four years ago, in the course of the month of January, I had charge of a young man, whom I had treated in July the preceding year. His sickness had lasted five days, and with the exception of black vomit, all the other characteristic symptoms of vomito were presented. This man could be considered as perfectly acclimated. In the month of January following, he was taken sick again. He complained of violent headache, pains in the limbs, especially in the loins ; the tongue was natural ; the pulse was strong, frequent, hard ; the eyes injected, the face florid, I thought I had before me a case of small-pox, which then prevailed epidemically. But what was surprise on the third day, instead of the eruption I expected, to have the black vomit appear all of a sudden ! The error in the diagnosis was flagrant, but it is not one in which my brethren do not participate.

Certain epidemics offer characteristics wholly special. Sometimes,

it is the cerebral type with continued fever ; again, the hemorrhagic type ; but it always presents itself with insidious cases. In 1854 I had charge of the captain of the Spanish brig "Domon." He entered the hospital in the month of June, with the appearances of a saburral, gastric condition. Nothing indicated a case of yellow fever. The patient complained of pains in the head on raising himself ; but these ceased in the course of the day. He had no pains in the loins or in the joints ; natural heat and moisture of the skin, sometimes sweats, followed by dryness not disagreeable to the touch ; pulse regular at 90 ; conjunctiva natural ; tongue saburral, whitish ; pulse weak, a slight catarrhal cough. I administered a purgative of castor oil, emollient injections, a diet drink slightly acidulous ; in the evening a mustard foot-bath, and also a Dover's powder in an infusion of elder. The next morning his condition was nearly the same, the pulse had not changed, the tongue was coated, and the headache had diminished. Prescription : An ounce of sulphate of magnesia in a half pint of water with six grains of nitrate of potash. The patient had copious stools, vomited abundantly, and perspired much. In the evening, the pulse was weaker, but preserved the same frequency. I ordered a foot-bath, and a half grain of opium, because the patient complained of insomnia.

On the morning of the third day, after a good night, the headache had disappeared almost entirely, but the patient complained of pain in the loins, which he attributed to a chill and the recumbent position. The tongue was still saburral, white in the middle and rosy towards the edges ; gums natural, pulse at 72. The patient wished to leave the bed, but I dissuaded him. Prescription : Frictions on the spine, acidulous drinks, emollient injections ; diet. In the evening the pains in the loins diminished. During the day, somnolence, attributed by the patient to some derangement of the head. Pulse again 80. *Mustard foot-bath and diaphoretic potion.* At night, sleep quiet, but in the morning suffering anew from extreme lassitude ; pulse 74 ; skin moist, tongue white.

Taking advantage of this new remission, I administered sulphate of quinine, and insisted on diet and quiet in bed. The evening of the fourth day was good ; the pulse was full, but gave only 76 pulsations. The patient complained of insomnia, yet he had slept during the day. He complained of buzzings, which I attributed to

the sulphate of quinine. *Potion containing opium.* This night was good, and the next morning, that is to say at the commencement of the fifth day, his condition was satisfactory—pulse at 76, skin moist, head free; still a little lassitude, tongue lightly coated. Prescription: Chicken broth and lemonade. I allowed the patient to leave the bed for two hours. In the evening, the head free as in the morning, but persistence of lassitude; stomach sunk in; pulse 78; I prescribed an injection.

On the sixth day, the patient said he had passed a good night. Still the urine was yellow and loaded. I then learned, that this man two years before had a disease, the convalescence of which had been complicated with jaundice. I advised him to be extremely prudent in his nourishment. I directed broth, infusion of rhubarb, injections, and the use of the juices of acid fruits.

At four o'clock in the afternoon, the patient complained of pains in the epigastric region and of acid eructation; skin warm, no stools. A sinapism was applied to the stomach, and a purgative injection given. The night is bad, disposition to vomit exhibited and resisted with bi-carbonate of soda.

On the seventh day the patient is restless; the pulse irregular; no stools, the nausea is renewed, and at 10 o'clock in the morning, he throws up an enormous mass of characteristic black substance. Dating from this time, the disease triumphs, the most appropriate treatment is ineffectual, and the patient dies.

In the autopsy I found nothing in the brain; the liver was hypertrophied and yellow; the spleen increased in size and gorged with black blood; the stomach filled with the matter of black vomit. I ask of all my brethren at Havana, who is the physician, under these circumstances, would have thought to find himself in the presence of yellow fever in the first seven days of this case?

During the epidemic of 1862, I saw some patients who were affected with headache only; others with extreme lassitude, and without intense fever or headache; others with vomiting and diarrhoea, and without headache or pain in the loins, and yet on the third day, all had well defined yellow fever.

So, since yellow fever does not offer, in the period of invasion, the peculiar symptoms which distinguish it essentially from other diseases, the physician in view of this doubt, should direct his

treatment, as for yellow fever. This special treatment cannot aggravate a malady of another nature, presenting the same symptoms.

If the diagnosis is often obscure in the period of invasion, it is not so in the second period. It is useless to describe anew the symptoms by which it is characterized; for by referring to what has been already stated, it will be easily seen, that no more confusion on this subject is possible.

I still admit that bilious remittent and pernicious intermittent fever may present, in certain cases a strong analogy to yellow fever; but bilious fever offers no alterations so sudden as those of yellow fever, and the urine of bilious fever does not betray the presence of albumen, save at an advanced period of the disease, while in yellow fever, this is shown in the second period. The symptoms dependent on the presence of bile in the blood, are not so common in bilious as in yellow fever, and if it is true, that there exists some relation between light yellow fever and grave bilious remittent fever, the similitude ceases at a more advanced stage of the disease. Finally, yellow fever presenting itself oftenest in the epidemic form, sporadic cases are few. It is otherwise with bilious remittent, which is almost always sporadic. When atmospheric conditions produce intermittent fevers, and yellow fever exists at the same time, it is positive, that the latter also assumes the intermittent type, but the *ensemble* of the symptoms of the two diseases soon distinguishes the one from the other.

The last period is that which allows the least latitude for an error in diagnosis. The alterations are too visible and too characteristic; the symptoms furnished by the hemorrhages, the vomiting of blood, the delirium, the urine, the lesions of the nervous system, form a group, which it is impossible not to recognize. Still, there exist certain conditions, which offer some analogy to other diseases. Thus in pernicious fever, and in malignant fever of warm countries, the invasion of the third access, which generally terminates in death, is characterized by nervous symptoms, which have a certain resemblance to those, which we have noted in the termination of yellow fever.

It has been stated, that black vomit is not a symptom exclusively characteristic of yellow fever. It occurs in some cases of putrid

fever caused by miasmatic poison. In the epidemic of small-pox, which broke out in Havana in 1858, many cases of small-pox commenced with black vomit. I could cite a notable instance, where, vomit perfectly identical with that of yellow fever, lasted two days after eruption.

Another disease, which sometimes bears much resemblance to yellow fever, in its termination, is cholera. This resemblance was observed during the epidemic of cholera which raged at Havana in 1852. At this time it was not rare to find fever patients seized with cholera *et vice versa*; but it was remarkable, that when one of the diseases disappeared, the other continued its progress.

One important distinction to establish between yellow fever and bilious remittent fever is, that the former exists on the borders of the sea, on low and marshy lands. It is never found on the summit of mountains, nor in the interior distant from the coast. Bilious remittent fever on the contrary, shows itself everywhere with the same force. Yellow fever has a regular predilection for a certain period of the year—the season of greatest heat. Bilious remittent fever has no special season. It appears when least expected, complicates the progress and determines the typhoidal period of diseases. If it is true, that these two maladies can present themselves at the same time, one attacking strangers and the other the acclimated and natives of the country, it is not less true, that the same cause should not be ascribed to each, because if this were true, they should both occur in the same places with the same frequency. The intensity of attack differs in the two maladies, especially when yellow fever prevails, in epidemic form. If we proceed to an analysis of symptoms, we see that in yellow fever, the alteration of the organs and of their functions is more profound, and that disorganization commences much sooner after the invasion. The blood is always more or less decomposed in yellow fever, and, from the commencement, presents its own peculiar alterations, whilst the alterations of this liquid in bilious fever are manifested only in the typhoid period. The physical symptoms of decomposition are more constant in yellow fever. The vomiting of blood and hemorrhages are much more common than in bilious remittent fever, and if we have observed in the latter, black vomit, like that of yellow fever, its composition is different, because it is formed by bile stagnant in the stomach and decomposed by gastric acid.

The symptoms furnished by the urine also differs in those two fevers; and if it is true, that albumen is present in both, it is easily determined by nitric acid in the start of yellow fever, and is then a pathognomonic symptom; whilst in bilious fever, I have never discovered albumen until the typhoid condition was pronounced, and even in this case, this indication is very inconstant.

Finally, if we look to the seat of the disease, we see that yellow fever always commences with a shock more or less violent to the nervous system. The great sympathetic nerve appears to be first assailed, and it is from this great centre, the disease radiates by the solar plexus and the ganglions which unite it with the other organs; whilst in bilious remittent fever, the liver is most often the only organ to suffer. If we pass on to the cadaveric lesions shown in autopsies, we find the ganglions forming the solar and cœliac plexus always more or less profoundly altered in yellow fever. This lesion does not occur in bilious fever.

The material cause of yellow fever is miasmatic. It can be transported to a distance without losing its toxic principle, and be prepared to inflict its ravages upon those exposed to its influence. This then is a morbid principle *sui generis*, eminently contagious. The cause of bilious remittent fever does not exhibit this characteristic.

Prognosis.—The prognosis of yellow fever depends much upon the time when the patient is seen, and the circumstances by which he is surrounded. I have stated, speaking of the diagnosis, how often it is difficult to decide with certainty in the commencement of the disease; but it may be guaranteed, that of a hundred patients with the symptoms above described, not more than five will be lost, if the treatment is intelligently directed. The average of mortality increases in proportion to the progress of the disease. So it may be apprehended, that twenty to thirty in a hundred will be lost in the second, and he may esteem himself fortunate, who loses only three-fourths in the third period.

The purer the air, the more the chances of cure. Whites are oftener attacked than the Chinese. Blacks have the privilege of immunity. Temperaments sanguine and robust are more exposed than weak temperaments, men more than women, the latter more than children. Pregnancy exercises little influence, except in cases of abortion.

In saying, that the certainty of the prognosis often depended on atmospheric conditions, I have desired especially to speak of electrical influence. So, it is not rare to see a patient nearly entering upon convalescence die suddenly in consequence of a storm. This atmospheric influence makes itself felt even on animal substances! Fresh meat is all at once decomposed; fish scarcely taken from the water are tainted in a few instants; milk is turned with astonishing rapidity. Is it extraordinary, that an agent endowed with such deleterious powers, can exercise this fatal influence over a subject enfeebled by a disease, which assails especially the fluids most indispensable to life?

In dry and warm weather, with wind from the south, there is a predisposition to inflammatory affections, going into the continued type of yellow fever, in the cerebral form. Individuals of sanguine temperament, will, under these circumstances, be more exposed than those of the lymphatic temperament, and the latter, in their turn, be more exposed in a rainy season with a humid atmosphere.

The intermittent is the most favorable type; after this the remittent type; the continued type is always the gravest.

When the disease commences with chills, followed by heat, and later by abundant sweats, there will be remission, and it will not be grave, at least, if in the second access, the circumstances do not change. When the sweat is not accompanied by remission of the other symptoms, especially of the headache, the disease will be grave if the pulse continues full and frequent.

If, from the introduction of the disease, heat appears without being preceded by chills, but followed by sweat, it will have a remission, and soon after a reaction which should not be neglected. If the heat is not followed by sweat, if the skin remains hot, and the pulse full and frequent, the disease will be hard to combat.

In the absence of sweat, if the headache persists, despite the diminution of heat and the flagging of the pulse, the second access is not far distant, and will be very grave.

When cephalalgia is violent and continued, the skin dry, the pulse full, hard, and frequent, the headache does not yield, and the skin does not become humid, there will be a very serious case to deal with, especially if the individual is of sanguine temperament. If the skin becomes moist, if it presents partial sweat,

if the pulse diminishes in frequency, but remains full, the case will be protracted.

When with cephalalgia and dry skin, it is ushered in with vomiting and jaundice the issue will be fatal.

When the cephalalgia disappears suddenly, the remission is deceptive, if the stomach is painful, and the throbbing of the coeliac trunk can be observed.

When the symptoms continue in all their force, and do not yield to any treatment, the disease will be very acute, and will not last three days.

When in the beginning there is vomiting, epigastric pain, with throbbing of the coeliac trunk, death is certain, if jaundice makes its appearance.

When the general symptoms are not very intense, the disease will last from five to seven days, even with the continued type. When the symptoms are acute, the temperament sanguine, the weather dry and warm, the disease will last (especially in summer) from forty to seventy-two hours. When with jaundice, the urine is of the color of decoction of rhubarb, when there is no pain in the stomach, or it is scarcely perceptible, the case will terminate favorably.

When the fever has lasted three days without well defined remission, and without jaundice and epigastric pain, remission or intermission may be expected at this period.

In fever of the continued type, diminution of the symptoms, and changes, are dated on the third, fifth, and seventh day, at least, when the disease is not acute in its progress.

Remission generally occurs twice in twenty-four hours. If it happens suddenly with vomiting, the patient will be in great danger, especially if the pulse becomes small and irregular, with cephalalgia and dryness of the skin. The danger will be still greater, if jaundice appears before the third day, with epigastric pain, throbbing of the coeliac trunk and constipation.

Vomiting in the invasion of the disease is not to be feared, if it ceases, as soon as the stomach is freed of its contents. But if the vomiting continues, and its exertions are considerable, without relief to the patient, the disease will be serious, especially, if added to this there is precordial suffering and throbbing of the coeliac

trunk. Clear vomit, with gray or brown flakes, leaving a burning sensation in the throat, is the precursor of veritable vomito.

If the intermission manifesting itself in the invasion, is allowed to pass to the second access, the patient will eject black vomit on the third day, and die in convulsions. These symptoms, rarely observed in summer, occur most frequently in September and October, or during the winter with warm days and cold nights. In the intermittent type the cephalalgia is always supraorbital.

The sudden pains which occur towards the conclusion of the disease, at that time even when the patient is believed to be convalescing, are of very bad augury. They announce a spontaneous gangrene, which carries off the patient in less than forty-eight hours.*

Inflammation of the parotid glands, although a symptom grave enough, in the advanced stage of the disease, still allows some hope; but the convalescence will be long.

Gangrene of the skin, especially that of the scrotum, requires the greatest care. It is one of the most unfavorable symptoms.

Hiccough is a very grave symptom, when it occurs towards the termination of the disease.

The sooner hemorrhages occur in the introduction, the less they are to be feared; but they become a very grave complication, when they are abundant.

Epistaxis, coincident with a remission of symptoms, of the pulse, and of heat, may be considered critical. Buccal hemorrhage is not a bad symptom, if exclusively local, but general hemorrhage shows great gravity. Hematemesis, ordinarily very grave, allows some hope, if the blood is not corrupt, and it does not degenerate into black vomit.

Hematuria on the fifth or sixth day, should be considered critical, if the patient is not enfeebled. Anal hemorrhage in the last period leaves little hope of cure. Metrorrhagia is a good symptom, if manifested in the introduction and ceases in the second period; but in the third period, it is most frequently mortal.

*The most curious case, I have seen of this, was a Spanish sailor, about to leave the hospital, was seized next day, after his breakfast, with such intense pain in the left thigh, that he uttered the most distressing cries. Nothing could assuage his sufferings, and he died in twenty-four hours. On inspection of the dead body, the thigh was black, and the muscles incised by the scalpel, presented a black and fetid mass. In the epidemic of 1862, I observed two like cases.

Nature of the Disease.—Yellow fever or vomito is the result of a miasmatic poison, *sui generis*, which acts first on the great sympathetic nerve, and on the abdominal and ganglionic net-work. The organs, in relation with this nervous apparatus, are more or less altered in their functions; the blood itself is modified in its principal constituents. Examined carefully, it presents the following characteristics: With patients cared for in the first period, it is red and coagulates more readily as the type is continued and the condition is more acute. The quantity of fibrine and of albumen it contains, is considerably augmented. Scarcely passed from the vein, it coagulates in the vessel, forming a compact mass, adhering on the edges and offering great resistance to tearing. With the same individuals, twelve hours after, in ordinary cases, the blood then of a mahogany color, has already become more liquid and coagulates less easily. With some patients it remains two entire hours without coagulating, the serum is yellowish, and the clot is easily torn. In the second period of the disease, the blood is a deep brown, almost black, still more liquid; the coagulum slowly formed, has the consistence of jelly; the serum is yellow or yellowish, and like sanies.

In the third period, the blood is very fluid, and completely black.

Upon the whole, in the course of the disease, the fibrine diminishes to the advantage of the albumen, which is found in very large quantities in the urine.

The blood, failing to receive the oxygen necessary to its coloration, passes insensibly from red to black.

Persistence in cephalalgia, as also in rachialgia, even in the course of the second period, are not indications of inflammation, but of a nervous affection of the mass itself of the encephalon and of the spine. So, they often yield to belladonna and nux vomica, while they always resist antiphlogistic treatment.

The stomach and the duodenum show during the disease, an abnormal secretion of gastric and pancreatic juices. The liver secretes bile, which is ejected in vomiting or passes into the circulation, and produces jaundice and other dependent symptoms. The spleen is augmented in size, and becomes filled with a black, thick blood. The kidneys are affected, and secrete enormous quantities of albumen. All the organs, so profoundly affected in the course of the disease, are in direct relation with the abdominal ganglionic sys-

tem, and with the solar plexus, which examination of the dead body has shown to be gravely altered.

It may be admitted then, that the solar plexus is the principal seat of the disease called yellow fever. Atmospheric miasms, directly absorbed, by respiration, remain in a latent state until a cause often insignificant, as a chill or an indigestion, disturbing the normal equilibrium, generates the disease, and provokes the first period. When skillful attendance is obtained in time, this point is not passed, and yellow fever is arrested in its evolution; but when the evil is not arrested, the organs we have indicated are attacked. They present the symptoms we have described, as belonging to the second and third period; and so contribute to the complete disorganization of the blood, the essential agent of life, which examination of the dead body shows us, is altered in composition.

In front of the aorta and the supports of the diaphragm, around the coeliac trunk, and above the pancreas, there are a great number of ganglions in communication with the great sympathetic nerve. These ganglions send out in different directions the nervous threads which form the solar plexus, the epigastric plexus, which is limited on the right and left by the supra-renal capsules. The solar ganglions, which are extremely variable in form, and give birth to the semi-lunar ganglions, situated in front of the supports of the diaphragm, in part over the aorta, inside of and above the supra-renal capsules, communicate with the great sympathetic nerve. The ganglion on the right side, receives a part of the right pneumogastric nerve; the left ganglion is in part masked by the pancreas, and both receive the threads, which are distributed to the liver, pancreas, stomach and diaphragm. These organs constantly exhibit alterations in yellow fever, a circumstance which explains the beating of the coeliac trunk, and its intensity. It tells us why the epigastric pain is the last to disappear. Anastomoses of the nervous threads, proceeding from the solar plexus, explain the violent cephalalgia, the hiccough, the pain in the loins the dyspnœa from paralysis of the diaphragm, and all the other symptoms; because there is no one of them which alone, could be explained by the direct relation of the organ affected to the ramifications of the solar plexus and of the great sympathetic nerve.

The cause of yellow fever is purely miasmatic, and the air is its

vehicle. Always, where an atmosphere charged with miasm is absorbed, under conditions favorable to its development, yellow fever will appear. The circumstances contributing to the formation of putrid miasms are the mixture of fresh and sea-water containing animalculæ the detritus of vegetation, the evaporation of this mixture, great heat, humidity, and atmospheric electricity. Miasms once formed, may remain latent and innocuous during a period more or less protracted, until a cause, sometimes trifling, sets them in action.

If by contagion is understood the transmission of disease by contact, yellow fever, in the true acceptation of the term, cannot be called contagious; but if by the word contagion, is understood the transmission of disease by the absorption of a miasm, the subject attacked exhaling putrid miasms, these may be absorbed by a healthy subject, and in this case yellow fever is positively contagious. Anti-contagionists call this *infection*.

For the development of yellow fever, there must be a union of circumstances, which we will review. First elevation of temperature, great heat; not that yellow fever once developed ought necessarily to cease when the temperature falls. I have often seen the epidemic last during the whole winter, and continue to the month of April. But it is true, that yellow fever does not develop itself suddenly in epidemic form in a low temperature. For its generation, *ab initio*, heat is essential, and then it rages, as long as there are subjects fit to be assailed.

Most frequently, the epidemic commences at Havana towards the month of June, and ends in the month of November, but it always exists there in sporadic form, even in winter. especially, if after a great rain, there follows strong heat.

In winter, sporadic cases are much more common in the city than in the harbor, on board men-of-war, and on board private and commercial vessels. This grows out of the crowding of individuals. The greatest exposure is on shallow water and on the sea coast. At a certain height above the level of the sea, invasion is not to be feared, because miasma formed by animalculæ and vegetable detritus remain from their weight on the level of the earth, and cannot infect the elevated strata of the atmosphere.

[To be continued.]

CORRESPONDENCE.

OUR PARIS LETTER.

Absinth and Absinth Drinkers in France ; Hypodermic Injection of Brandy ; Nature of Rattlesnake Poison by M. Lacerda ; A Snake Story ; Dedication of the Practical School of Medicine ; Renewed Investigation into the Etiology of Diphtheria ; Death of Professor Tardieu.

11 RUE NEUVE DES CAPUCINES,

PARIS, January 20th, 1879.

To the Editors of the North Carolina Medical Journal :

GENTLEMEN :—The appetite for absinth seems to be on the increase in Paris. This liquor is procured by the distillation of alcohol, with worm-wood, *absinthum vulgare*, either pure or mixed with other herbs, such as anise, angelica, fennel, majoram, &c.; and experience demonstrates that it is far more injurious to the human system, when taken habitually, than the alcohol of brandy or of wine. M. Magnan in a series of experiments on inferior animals has recently shown that it acts with great violence upon the nerve-centres and eventually disorganizes them. A few drops injected into the veins of a dog produces immediately the most violent convulsions, while the same quantity of alcohol similarly administered is comparatively innoxious. This experiment explains the tendency which is manifested among the drinkers of absinth to the development of epileptic convulsions, as well as the delirium which so much more readily supervenes in its consumers than in those who take alcohol in other forms. The action of this liquor is, at first, much more energetic, and satisfactory, than that of either wine or brandy. The appetite improves, the bodily strength augments, the virile power is sustained, and the valetudinarian fancies even that he has found the "fountain of youth." Just so soon, however, as the habit has been acquired, the dream vanishes, and he realizes that he has dallied with one of the surest and most deadly of poisons. And, yet, heedless of the warnings which the Morgue and the mad-house daily furnish, the fast men of this gay metropolis eagerly court the momentary spur which absinth gives to their waning passions and jaded powers, only to realize a still

more premature and profound decadence alike of mind and body. Fortunately, this pernicious habit is almost exclusively confined to certain classes in the larger cities, while the great mass of the French people limit themselves to the lighter wines which their country so abundantly produces.

A propos of the injection of alcohol, I must take this occasion to claim priority in its subcutaneous introduction as a remedial agent. While practicing medicine in the city of Baltimore during the year 1867, I was called to a woman who was in a state of profound collapse; and, as she was unable to swallow, I called for brandy, and unhesitatingly injected hypodermically about two drachms of it just over the apex of the heart—with the result of promptly restoring the functions of that organ and of saving the life of the patient. An account of this case was published immediately afterwards in the *Baltimore Medical Bulletin*—as many of its readers will remember; while in sundry journals since then I have alluded to the circumstance, and made the same claim to precedence as that which is now asserted.

Within the last few weeks I have had a case in my practice here in which the subcutaneous injection of brandy undoubtedly prevented a fatal issue. Having had occasion to use the forceps for the removal of a child that had unfortunately died *in utero*, under circumstances which precluded the use of chloroform and necessitated the loss of a considerable amount of blood, I had no sooner secured a proper contraction of the womb than the woman sank into a state of collapse so profound that I could scarcely determine whether she was really dead or alive. There was no pulsation in the radial artery, the heart seemed motionless, the respiration ceased, the extremities became as cold as ice, the jaws were absolutely rigid, and the face assumed the very aspect of death. Instantly lowering her head, I injected two drachms of pure brandy over the apex of the heart, and resorted to artificial respiration, while the nurse under my orders made a liberal use of warmth and revulsives. In response to these means there came a slight flutter about the heart and a single feeble sigh, and then a lapse to the same awful state of silence and inaction. Repeating the injection of brandy and persisting in the other measures, I succeeded after some moments in securing a somewhat more decided movement of the heart and a rather stronger

respiratory effort, followed by another speedy return to the death-like condition which I have already described. And so, with alternations of resuscitation and relapse, amid gleams of hope and intervals of despair. I labored on for more than two hours before the slightest continuity in the cardiac and pulmonary functions was established, and it was only after the lapse of a much longer period that a sufficient amount of reaction developed itself to enable me to decide whether death or life was to be the issue of the struggle. Eventually, however, success crowned my efforts; the state of collapse passed away, and, after a long and weary subsequent illness, the patient lives to unite with me in blessing the days on which brandy and the hypodermic syringe were invented; for they restored her to life and relieved me from one of the most painful and trying positions of my whole professional career.

M. de Quatrefages presented to the Academy of Sciences at its last sitting, a note from M. Lacerda relative to some researches which he has been making into the action of the venom of the rattlesnake. His investigations show that the poisonous matter in question contains what is called figured ferments, the analogy of which with bacterides is very striking. From a young and vigorous crotalus, subjected to the action of chloroform, he obtained a drop of the venom on a chemically clear piece of glass, and at once placed it under the microscope. Almost instantly he observed the formation of a filamentous pulp in an arborescent disposition. Gradually the thickened filament dissolved and disappeared, having pushed out spores which swelled and enlarged visibly, while each spore sent out a minute tube which lengthened rapidly. After a short period the latter, i. e., the minute tube, separated from the first spore, and formed another nucleus for reproducing the deadly contamination of the original pulp. In the examination of the blood of animals killed by the bite of these snakes, M. Lacerda noticed that the red globules presented primarily some small brilliant points on their surface which spread with great rapidity and that ultimately the globules melted one into the other, forming a kind of amorphous paste that could not circulate in the veins. Other animals into which this altered blood was injected, expired in a few hours, presenting all the symptoms of those originally bitten, and showing precisely the same pathological changes.

After much observation, he concludes that the best remedy, because physiologically antidotal to the poison infected by these serpents, is *brandy introduced under the skin* or administered freely by the mouth. If his views in regard to the nature of the poison are correct, it would not seem inappropriate to introduce either carbolic acid or salicylic acid into the system, contemporaneously. It should not be forgotten, however, that the experiments conducted under the sanction of the British Government in India and Australia, seem to demonstrate the superior properties of ammonia in this regard, injected either subcutaneously or directly into a vein.

Please excuse me for telling a "snake story" in this connection. My old friend Dr. H., who practised in Gatesville some years since, was quite remarkable for two things, his passion for snakes and his physical ponderosity. It so happened that he occupied an office some hundred yards distant from the hotel at which he took his meals, and kept there as his companions several rattlesnakes, securely fastened up, as he supposed, in a box with a glass cover. One night at a late hour when the inhabitants of that virtuous village were all sound asleep, the doctor was awakened by the noise of a great battle among his protégés, followed by the breaking of the glass door covering their cage, and, then, the "sounding of their rattles" as they went prowling in the darkness around his room. My friend, though naturally a brave man, was nearly paralyzed with terror. Each moment expecting that the snakes might seek an asylum in his bed, and still fearing to leave it, he found himself in a dilemma the exigencies of which nearly drove him distracted. Finally, remembering that his bed-sted was a "high poster," he mustered courage enough to make a desperate spring for the nearest post and with the agility of a far leaner man climbed to the top of it where, *en chemise* and shouting with cold and consternation—in the language of the old darkey who eventually rescued him—"he roosted till day-break, hallooing *murder* and *fire* and *such-like*, loud enough to have skeared to death all the snakes in Gates county." From that time forward the doctor's passion for natural history took another and less hazardous turn, and the word "snake" meant "fight" in his vocabulary.

The ceremony of laying the foundation stone of the Practical School of Medicine took place a short time since. About four

hundred persons, chiefly internes of hospital and medical students were present, and the occasion was one of much congratulation and rejoicing.

M. Vulpian, Dean of the Faculty, made an address in which he referred to the fact, that, although the late Emperor had proposed to build the new school it had been left to a Republican Minister to realize the plan. M. Bardoux, Minister of Public Instruction, followed in quite a lengthy oration, the gist of which was an acknowledgement of the honor done him to take so prominent a part in connection with an institution which was one of the glories of France, and whose professors had done so much alike for science and for humanity, through so long a series of years. He referred in glowing terms to the ability and reputation possessed by its present corps of teachers, who, he believed, to be second to none in any country, and whose professional record would prove a source of perpetual inspiration to those who are to come after them. He, also, referred to the admirable arrangements evidenced by the plans of the new structure, and paid a graceful compliment to the architect who had devised them. There can be no doubt that this new school will greatly increase the facilities for instruction already so abundantly possessed by this wonderful city; and there is no denying the fact that the present Minister of Public Instruction is not only an officer of extraordinary capacity, but, that, under his fostering care, medical teaching has received a new impulse and an especial stimulation.

In nothing, perhaps, has M. Bardoux shown more discretion and good taste than in refusing to exercise the right vested in him to fill the two chairs recently created by the Chamber of Deputies and in calling upon the faculty to make the choice. As a result of this courteous and statesman-like concession upon the part of the Honorable Minister, M. Parrot, takes the chair of Medical History and M. Panas that of Clinical Ophthalmology, with the sanction of their colleagues, the approval of the profession, and a sentiment upon the part of the community that qualification, and not partizanship, has decided the matter.

In the section of Pharmacy, the Academy of Medicine at its last sitting, elevated to membership M. Burgoing, by thirty-nine votes in opposition to thirty-four given to M. Mehn. At the same time,

M. Richet, was chosen President for the year, while M. Roger was elected Vice-President and M. Bergeron, Secretary. In the Société of Surgery, which has for the last twelve months been so ably presided over by M. Guyon, an election for officers was held at its last meeting in December, with the following result: President, M. Tarnier; Vice-President, M. Tillaux; and Secretary, M. Lannelongue.

Since the death of the unfortunate Princess Alice, the attention of the profession has been especially directed to the subject of diphtheria. The medical journals of England and of this country have been filled with speculations as regards its etiology, and with suggestions for its treatment. Mr. Power, of London, after a very critical investigation of an epidemic of diphtheria which came under his observation, believed that he traced the disease to the consumption of impure milk. He proves beyond question that the epidemic had a distribution corresponding to the distribution of milk from two sources, and that both herds of cows belonged to the same owner. According to his observation no external conditions could be found to account for this mortific potency of the milk from the two localities indicated, and he concludes that it was altered in character and rendered poisonous in this sense, by some diseased condition of the animals themselves. As this diseased condition is one which does not materially affect the general health of the cow, he inclines to the belief that a certain affection of the udder, which is known by the common name of "garget" has relations with human diphtheria. In seeming confirmation of this hypothesis, the statement was made to the Pathological Society of London, that when diphtheria broke out in the Princess Mary's Home, at Woking, this identical disease, "garget" existed among the cows on the farm which exclusively supplied that institution with milk. This whole matter is to be investigated by a committee composed of Drs. Buchanan, Sanderson, Greenfield, and Copeland, and until their report is made, no definite opinion can be formed in relation to it. Would it not be well for some of our physicians to devote themselves to this new and important field of inquiry, and to publish to the world such information as they may gather in it?

As was stated in a previous letter, the general judgment of the French physicians is most favorable to the chlorate of potash as a

remedial agent in this disease, and such is the testimony of my own observation and experience—especially when it is judiciously administered and supplemented by a sustaining regimen. M. Beau-poil has just published in the *Journal of Medicine and Surgery*, an earnest protest against *cauterization* in the treatment of diphtheria. He makes the following points :

1st. Caustics and especially caustics in a liquid form do not limit their destructive action to the point of disease, but by destroying the vitality of the subjacent tissue, facilitate the extension of the false membrane and the inflammatory engorgement.

2nd. Cauterization is the special agency by means of which the propagation of the diseased action to the glands of the pharynx, &c., &c., is effected.

3d. Cauterization of the pharyngeal mucous membrane, especially when the nitrate of silver is employed, promotes the development of diphtheritic paralysis.

4th. The only reliable topical applications are simple astringents and disinfectants, but they should not be relied upon to the neglect of tonics, wine, alcohol, liquid food and preparations of cubebs, &c.

Although these conclusions are somewhat too dogmatically stated, there is undoubtedly much of truth and good sense embodied in them.

The profession of France has just sustained an almost irreparable loss in the death of Professor Tardieu, whose connection with medical jurisprudence has so long added lustre to that special department of science. This great man died on the 12th inst., from an inflammation of the lungs, which carried him off very suddenly and at the comparatively early age of sixty-two years—much to the regret of multitudes of personal friends and the whole world of science. While the task of giving an adequate notice of his distinguished career must be deferred until my next letter, I will only say in this connection, that since the death of Claude-Bernard, the demise of no professional man has caused a more profound sensation throughout this entire community. His funeral took place from the Madeleine, on Wednesday last, and was a very imposing ceremony, having been attended by the representatives of all the leading scientific associations in Paris.

Since I last communicated with the JOURNAL, I have had the

pleasure of seeing here the distinguished Virginian who was so well known during the war as the "Chief Surgeon of Stonewall Jackson's Division." To the sojourner in a land of strangers there are few things so agreeable as to meet with one that he has known even casually at home; while the pleasure of the meeting is intensified beyond expression when the comer is identified with the most cherished memories of other days and chances to be at once a valued friend and a former comrade. You can, therefore, understand with what pleasure I welcomed Dr. Hunter McGuire to Paris, and "how the old time came over me" when, in the peculiar accents of the people I love so well, he talked to one of native land and mutual friends and all the stirring incidents of the times which so tried the souls of Southern men and bound them together by ties such as they alone can comprehend and nothing but death itself can sever. Though seeking repose abroad from the labors incident to his multitudinous engagement at home, his active mind turned from the recreations and attractions of Paris life, to the surgical wards of its leading hospitals, where with the enthusiasm of a student and the penetration of a master, he watched and weighed all that transpired around him. No professional man in the entire South has a more brilliant future before him, and for one, I sincerely hope that he may live long to enjoy its rewards and honors.

Very truly and respectfully yours,

EDWARD WARREN, (BEY) M. D., C. M.

Epilepsy of long standing may be cured by employing a solution of curare, seven grains to seventy-five minims of water, to which is added two drops of hydro-chloric acid. At intervals of about a week, eight drops of this solution are injected hypodermically. Cases of several years standing have been cured after eight or ten injections.—*Medical Press and Circular, St. Louis Courier of Medicine.*


M. Vergely's memoir establishes : 1. That the existence of heart diseases does not contra-indicate the use of anesthetics. 2. That chloroform is a sedative in this class of cases. 3. That it should be used with discretion.—*Press and Circular.*

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED
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M. J. DEROSSET, M. D., 46 West 36th St., N. Y. }
THOMAS F. WOOD, M. D., Wilmington, N. C. } Editors.

 *Original communications are solicited from all parts of the country, and especially from the medical profession of The Carolinas. Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to our JOURNAL, by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to DEROSSET & WOOD, P. O. Box 535, Wilmington, N. C.*

A LESSON ABOUT DRINKING WATER.

Shortly after the State Board of Health was organized, the sanitary status of the city of Wilmington was attempted to be learned, and with the help of Dr. A. E. Wright, City Superintendent of Health, statistics were gathered as to the condition of privies and wells and their relations to each other with a view of determining how far the public health, and the health of families, in particular, were affected thereby.

The result of this examination showed that there were 1383 wells, 123 cisterns, and 10 springs. That there was 1 well two feet from the privy, 2 wells four feet from the privy, 33 wells ten feet from the privy, 220 wells from twenty-five to thirty feet, 90 thirty feet, 145 from thirty to forty feet, 127 from forty-five to fifty feet, 423 from fifty to one hundred, and 341 from one hundred to two hundred feet.

Furthermore there are 184 privies with brick vaults, 1,119 with

wooden vaults or boxes, 552 privies on the ground, 110 dwellings without privies, and 20 having sewers or located over the river.

The soil upon which Wilmington is located is nearly as white as that of the sea-beach, and as percolable. The average depths of wells is eighteen feet. Very few wells have a brick curb, and with a few exceptions, none are cemented to keep out the surface water.

We have given enough facts to serve our present purpose, (at any rate we forbear to tell the whole story,) to show how far removed we are from a tolerable sanitary condition.

A gentleman located on Princess street, upon one of the highest sand ridges, in a thickly settled part of the city, lives in a house of one story, and on each side of him are two-story wooden houses. His front yard is adorned with ornamental shrubbery, and a flourishing row of trees. The health of the family (composed of nine or ten persons) is not generally good, although it cannot be said that there has been any typhoidal disease among them. Having his attention called to the matter by sickness, he set about applying first one sanitary remedy and then the other as it occurred to him. The shrubbery in the front yard was thinned out, and the limbs of the trees cut so as to let in more sun-light. Under the house was cleaned out, and access given to fresh air. The ventilation of the house was improved, but the defect was not remedied.

At last after several conversations with his neighbor, the well-water was suspected and we were asked for our opinion. A specimen of water fresh from the well was procured and tightly corked, and sent to Professor A. R. Ledoux, of Chapel Hill. We append his reply :

DEPARTMENT OF AGRICULTURE, NORTH CAROLINA, }
 AGRICULTURAL EXPERIMENT & FERTILIZER CONTROL STATION, }
 AT THE STATE UNIVERSITY.

* * * * *

"*The well is without doubt most dangerously poisonous. Not only is the water filled with bacteria, but there are other living organisms feeding upon the animal matter present, whose movements can be seen by the naked eye.*

"*There are no unusual inorganic constituents present, but the organic matter renders it very unhealthy.*

"*Comparative tests give the following result :*

"If we represent pure water by 1000, the organic impurities in sample bring down its quality to about 100.

Yours sincerely,

A. R. LEDOUX."

We examined the premises upon which the well is located and find that the uncemented brick privy sink of his neighbor on the east is ten paces from the well.

This well-water has for years been regarded on account of its temperature, as excellent; and in fact so accustomed had the family become to this highly poisonous fluid, hardly deserving the name of water, that they could not detect anything wrong in it.

If this were an isolated instance of dangerous contamination of the water supply, the remedy would be easy enough; but with the statistics condensed at the beginning of this article, we find ourselves at the beginning of a revelation of evils, the remedy of which will save us from epidemic disaster. -

This is not the place to go into the particulars of the sanitary condition of the sources of our drinking water, but it must be obvious to every one that with a ready precolable soil, a well dug many feet deeper than the deepest privy sink, the well without a brick cemented curb and in thirty feet of the privy, that contamination in course of time is inevitable. From this lesson about our drinking water, we may work out the problems of our water supply. Indeed, we had better say we *must* work it out, or be prepared for disastrous outbreaks of diphtheria, and typhoidal disease.

It is this and like matters that our State Board of Health has undertaken to elucidate. It is the design of this Board to investigate every town in the State as soon as we have means at our command; it is our hope that with wide-spread information we may be the means of improving the sanitary condition of our towns. Let the cities and towns of the State come to the help of our Board. If the State seals up her treasury against the calls for organized help, let our towns act independently and save themselves at least.

The Faculty of the Medical College of South Carolina have succeeded after a hard fight in getting entire control of Charleston city hospital. This greatly enlarges the clinical advantages of the students at the College.

REVIEWS AND BOOK NOTICES.

REPORTS OF INVESTIGATIONS INTO THE PATHOGENY OF DIPHTHERIA, conducted by EDWARD CURTIS, M. D., and THOMAS E. SATTERTHWAITE, M. D.

The reporters took for their subject "the question which has already attracted so much attention from its supposed solution in Germany, viz: *"what is the nature of the infectious principle of diphtheria and what are the circumstances that determine the infection."*

Considering it already sufficiently proven that the false membrane of diphtheria is able to communicate the disease, the object of their search was particularly for the infectious principle, in the material. Membranes were searched with special care for bacteria, and this research enables them to say that "so far as regards the presence of bacteria in our diphtheritic membranes, they found abundant evidence of their existence as described by others; but these forms were in no wise different in their optical or chemical behavior from the bacteria found in putrescent but non-diphtheritic membrane."

Inoculation of rabbits with diphtheritic membrane was undertaken, because "if it was proven that such inoculation would produce diphtheria in the inoculated animal, then by varying the conditions, the nature of the poisonous and the determining circumstance of infection might be discovered."

The result of these inoculations enable the reporters to say—"that the disease produced in the rabbit by inoculations of diphtheritic matter, is not only not specifically diphtheritic in character, but not even peculiar to the diphtheritic infection."

The following is the summary of the investigations:

"I. Inoculation of diphtheritic membrane into the muscular tissue of the rabbit produces severe local lesions, and even constitutional disturbance and death. But these effects differ so in their pathology and clinical history from diphtheria in the human subject, that there is no warrant for defining them as diphtheria, or for applying conclusions drawn from observation of this inoculation-disease in the rabbit to the case of diphtheria in man.

"II. Effects exactly similar to the foregoing and of equal

severity can moreover be produced by inoculation of a material not only non-diphtheritic, but non-infectious to the human subject under conditions where the diphtheritic membrane *is* infectious, *i. e.*, when brought into contact with the mucous membrane of the mouth and throat. The material referred to is the pulpy scraping of the surface of the healthy human tongue.

“ III. Effects generally similar to the foregoing, though not of equal intensity, can furthermore be produced by inoculation of a putrescent matter which is not even of immediate animal origin, namely : Cohn’s fluid, allowed to spontaneously decompose. (Cohn’s fluid is simply an aqueous solution of ammoniac tartrate, potassic and calcic phosphates and magnesian sulphate,).

“ IV. The foregoing inoculation effects are not due to simple mechanical irritation, for inoculations of sand produce no effect whatever.

“ V. Thorough filtration of a proven virulent aqueous infusion of diphtheritic membrane or of putrid Cohn’s fluid removes the infectious property of the same. Hence in such diphtheritic infusion the poisonous quality probably inheres in some *particulate* thing, from which it is not separable by the action of cold water.

“ VI. Thorough trituration of proven virulent diphtheritic membrane and tongue-scrapings with a high percentage of salicylic acid fails not only to remove, but even markedly to modify, the intensity of the infectious quality of those substances. Hence, since salicylic acid in even a minute percentage is capable of permanently suspending the vital activity of bacteria, the inference is that the infectious quality of diphtheritic membrane upon the system of the rabbit is not correlated to the vital activity of the bacteria present in such membrane.

“ VII. If, as is not improbable, the noxious principle in diphtheritic membrane which produces in rabbits the effects described, be the same with or even analogous to the principle which produces diphtheria in man by direct infection, then the conclusion of VI, will apply to the infectious quality of such membrane in its relation to the reproduction of diphtheria in the human subject. If this be the case, it follows as an important practical corollary that *there is no theoretical ground for assuming that preventing the bacteria of a diphtheritic patch from making their way through the under-*

lying mucous membrane will, per se, prevent general diphtheritic infection of the system.

"VIII. There is no relation between the inoculable virulence of a diphtheritic membrane and the period, within three days, that has elapsed between the detachment of the membrane and the inoculation with the same, nor between inoculable virulence and gross amount of bacteria present in the membrane.

"IX. There is a rough relation between inoculable virulence of diphtheritic membrane and the severity of the original case of diphtheria, so far as that can be estimated by the termination of the case in death or recovery.

"But it must be distinctly understood that these nine propositions are not put forth as *proven*, but merely as the results of our experiments and observation so far as the latter go, stated in abstract form. Before the propositions can be considered proved as truths, a large number of corroborative experiments will have to be ready."

The second part of the paper gives 40 pages of the narrative of the experiments upon which the report is founded.

A PRACTICAL MANUAL OF THE DISEASES OF CHILDREN WITH A FORMULARY. By EDWARD ELLIS, M. D. Third Edition. Wm. Wood & Co. Great Jones Street. New York. 1879. Pp. 213. 8vo.

This is the second installment of the monthly issue of Wood's Library of Standard Authors. In its mechanical appearance it is an improvement on "Hilton on Rest and Pain," &c.

"How to detect disease is a thoroughly worked problem, but how to cure disease is one that has received too little attention from scientific physicians," seems to be adopted by the author as a good working motto.

The first chapter is devoted to general observations on Management and Diet, and is written with practical good sense. For instance: "The essential and vital difference between cow's milk and woman's milk consists, not so much in the relative quantities of this or that solid constituent, as in the fact that the casein of woman's milk always coagulates in small floccular pieces—broken flakes—while cow's milk (and other milks to a less degree) coagulates into hard, gelatinous, indigestible lumps. It is to render the

cow's milk more digestible than the addition of water, and especially of lime-water, is recommended by physicians.

The chapter on General Diseases is more satisfactory than the one which follows on Skin Diseases. But who ever saw a satisfactory chapter on skin diseases? Diagnosis cannot be taught by written descriptions, and cures cannot be effected without diagnosis, and so the general practitioner gropes a long time before he gains an insight into this difficult branch of medicine. Therefore, we must only commend the short space consumed in disposing of the subject.

The fourth chapter is devoted to a short description of congenital affections, and the method of treatment of ophthalmia neonatorum is excellent.

The subject of vaccination is treated from the English standpoint, and is far behind the practice employed in this country by the best physicians. Animal vaccination in America has relieved the medical profession of much of the uncertainty and blunders which were so common only ten years ago, but no mention is made of this great progressive step.

This book will no doubt be largely read, and no part of it will be more highly esteemed than the chapter on General Therapeutical Hints and Formulary. So far we approve most heartily the selections of works to compose the Library of Standard Authors, and advise our readers to subscribe at once.

DIPHTHERIA, ITS NATURE AND TREATMENT, VARIETIES AND EXPRESSIONS. By MORELL MACKENZIE, M. D. Senior Physician to the Hospital for Diseases of the Throat and Chest, &c. London. Pp. 104. 8vo. Lindsay & Blakiston, 25 S. 6th Street. Philadelphia. 1879. Price 75 cents.

The medical profession is always ready to listen to the teaching of Dr. Morell Mackenzie in all matters within the domain of his specialty. This little work is more satisfactory than many more pretentious ones which have occupied the attention of the profession.

The first chapter gives the Definition and History of the disease, is not so encumbered with useless historical learning as to become tedious, and fairly puts the history in review before the reader. We would have been better pleased to have seen mentioned the histori-

cal researches of Dr. John C. Peters, of New York, as it would have added very much interest to American readers.

The chapter on Etiology is to us the most interesting in the book. On the subject of the conveyance of the poison: "The poison may be conveyed," says our author, through food or water (or other fluid used for drinking purposes), as in the analagous case of typhoid fever. * * * In many of the cases of diphtheria which I have seen during the last few years, the drinking water was found to be contaminated with excrementitious matter."

"As regards direct inoculation with diphtheritic membrane, * * * although in some of these experiments, a false membrane was produced, the septicæmia may have been merely the result of inoculation with decomposing animal matter, and it cannot be considered that the true diphtheria, with its specific manifestations, has yet been artificially produced by inoculation of the lower animals, though certain local phenomena of great interest has been induced.*

The first chapter the busy practitioner will refer to is the one on treatment. There the whole field of therapeutical agents is surveyed, but there seems to be no new light. Dr. Chapman's alcohol treatment seems not to have reached England, but small doses of brandy and wine are recommended. Two ounces of brandy on four ounces of wine in the twenty-four hours may be prescribed for an adult, and proportionate quantities for a child.

Dr. Mackenzie holds to the identity of croup and diphtheria, and will shake the faith of many a dualist who reads the chapter on Laryngo-tracheal diphtheria. This little work is much more to the purpose than the treatise by Oertel, and the many one-sided essays in current literature.

PHYSIOLOGY: Preliminary course of Lectures by JAMES T. WHITTAKER, M. A., M. D. Illustrated. Cincinnati: Chaney R. Murry, 103 W. Sixth Street. Pp. 288.

Any student who may have the fortune to have as a good foundation in physiology as Dr. Whittaker's book can give him, may feel sure that he is in the right way to a comprehensive grasp of the

*See the experiments of Drs. Curtis and Satterthwaite in this number.

complete subject. Students are very prone to neglect the history upon which our modern science of physiology is built, and in doing this they neglect the most charming chapter in the development of human learning.

This "preliminary course" gives an attractive introduction by the lives of Harvey and Haller, and outlining the conservation of force.

The Darwinian theory of "natural selection" seems to be adopted by the author is common with many other physiologists, and although it adds very much to the beauty of some of the observations, the student should be warned that the verdict of "not proven" still stands against it.

CONCLUSIONS OF THE BOARD OF EXPERTS. Authorized by Congress to investigate the Yellow Fever Epidemic of 1878.

Being in reply to questions of the Committee of the Senate and House of Representatives of the Congress of the United States, upon the subject of the epidemic. Pp. 42. With four *provisional* statistical tables.

We are in receipt of the above report and it seems in all respects to be wisely and prudently made. The first question considers "the origin, cause, and distinctive features of Yellow Fever and Cholera; whether or not they are indigenous to any part of the United States; if not, how they are brought to this country, and the localities from which they come, and if found to be indigenous and also imported, in what proportion and to what extent has their presence in the United States been owing to importation."

The second question "The season of the year, and atmospheric conditions, when and in which they are propagated."

The answers are given in numbered replies from 1 to 90. That yellow fever is a specific disease, and is produced by introducing into the human organism a specific poison, has not been isolated, or made evident to the senses although they believe it to be *particulate*. That it is not only particulate, but that it is also organic, and endowed with the powers of growth and reproduction. That it is not a marsh-malarial disease, and, that malarial influences do not contribute towards the dissemination and mortality of yellow fever to any greater extent, than to that of other epidemic diseases. The

concurrence of conditions favorable to the evolution of yellow fever poison, seems to be necessary to the evolution of yellow fever epidemics. It is as yet an unknown factor. That yellow fever is a disease of singular local attachments. That in the dissemination of yellow fever atmospheric air is the usual medium through which the infection is received into the human system. That among the several races of men the white race manifests the greatest susceptibility to yellow fever, the negroes least, and the mulattoes an intermediate position.

That the period of incubation varies, but in the large majority of cases does not exceed from two to five days. That one attack affords in a great degree protection against subsequent invasion. That yellow fever is a disease of warm climates, and is not able to withstand frost. That there is good reason to believe that it is destroyed by intense heat. That there is reason to believe that yellow fever can be destroyed by chemical disinfectants. That as regards the geographical distribution of the disease, it was not known in Europe until after the discovery of America, and since its introduction into the West Indies these Islands seem to have constituted the favorite habitat of the disease, and the fever has been carried from there at different times into Europe. In all countries outside of the West Indies is an exotic disease. That for seventy-seven out of eighty-eight years it has visited some part of the United States. That in this country it has never acquired permanent domicil, and every epidemic has been traced with a high degree of probability to new importation.

That it has always occurred in some seaport before making its appearance in the interior. That they know of no place in this country where it has occurred indigenously. That while in some instances yellow fever has appeared to have its origin in sea-port towns, it has always happened that there was yellow fever in some foreign port, between which and the American port there has been at the time communication. That the specific poison of the disease may live through a winter when hidden away from the cold in sheltered places. In its migration across the seas it has followed the lines of human travels. It is transmitted across the seas in vessels, and through the interior of the country by steamboats, barges, railroad cars, wagons, carriages, &c., &c. That the most

frequent agency in the dissemination of yellow fever from place to place is found in yellow fever patients; to what extent clothing and baggage is responsible for it, is not known.

That infected vessels and boats are sources of great danger, since it is found that the yellow fever infection clings to them with wonderful pertinacity in spite of all the methods of ventilation, disinfection, and purification that have up to this time been called into requisition. Formites of various kinds, particularly clothing, bedding, &c., that have been used by yellow fever patients may serve as vehicles of infection, and outbreaks have been traced to these sources. Ordinary merchandise may be infected by storage in an infected house.

Third Question.—“The means by which the introduction of yellow fever and cholera into this country may be prevented.”

The rules for the sanitary management of ships have not prevented them from being the carriers of pestilence. An improvement might be made in this respect, by ventilating portions of vessels which are now shut chambers. That it is advisable, 1st. That ships should be inspected before sailing from infected ports, and (2) their inspection and detention on arrival.

A scheme of quarantine suggested is as follows: Medical officers of health should be stationed at every foreign port, who should acquaint themselves with the diseases usual to the ports where they are assigned. They should forward warning reports to Washington. They should acquaint themselves with the medical history of individual vessels. The equipment of these foreign agents should comprise residence, hospital and necessary attendants, &c. The medical officers of the Home Service should perform all duties incumbent upon quarantine officers.

The Prevention of the Spread of Yellow Fever and Cholera includes local sanitation, isolation of the sick, segregation or dispersion of the well, disinfection or destruction of the poisons; measures of personal prevention; inland quarantines.

While yellow fever belongs to a class of diseases which is not controlled by local conditions, general neglect of hygienic rules exercise an unfavorable influence as in other diseases. Insanitary surroundings lessen vital power and therefore diminish resistance against yellow fever. It therefore follows that strict perfect local sanitary conditions should be attempted.

The evils of removing garbage after yellow fever has appeared, are not believed to be as prejudicial to either the sick or the well as the tolerance of such accumulations. Malarial poison may coincide with yellow fever and increase the danger, therefore large surfaces of soil should not be exposed to the sun. There is testimony to show that the effluvium from dead bodies may be associated with infection, it is therefore recommended that the bodies of persons dead of yellow fever should be promptly buried.

Isolation of persons sick with yellow fever is an efficient method of arresting its spread. Visits made by friends carried the disease in the epidemic of 1878. All visits should be prohibited.

Segregation or dispersion of the population liable to attack from yellow fever and cholera is a valuable means of arresting their spread. The establishment of camps of refuge outside of towns in which yellow fever has been epidemic has proven to be a wise sanitary measure.

Disinfection by chemical agents has not succeeded. Researches in this direction should be encouraged.

Personal prophylaxis should include the prevention of excesses in eating, drinking, or exposure of any kind. No drugs are known which can be relied upon as preventives of yellow fever.

Inland quarantine instituted during the late epidemic exercised a marked influence in arresting the spread of yellow fever, but on the other hand, its enforcement inflicted privations and cruel lack of necessary attention upon the sick. If it is to be resorted to in the future it should be made to conform to some plan which shall deprive it of harsh and unreasonable features. In the present state of popular alarm and excitement, it is greatly to be feared that outbreaks of yellow fever or of cholera, would lead to a form of quarantine the most to be deprecated of all others, which is the compulsory confinement both of the sick and the well within the affected towns. Such an occurrence would be an ineffacable blotch upon the civilization and philanthropy of the country and of the age.

The answer to the next question gives the estimated number of deaths, and diminution of national wealth. The summary of the "provisional table" gives 74,265 cases reported from 132 places, and total number of deaths reported 15,534.

FIFTY YEARS AGO: An address to the Graduating Class of the Pacific. By HENRY GIBBONS, SR., M. D. Professor of the Principles and Practice of Medicine and Clinical Medicine.

This address is one of those pleasant things, that which some old fashioned medical men are capable of, when they relax the rigor of the professor's habit. It is as much a pleasure to the listeners as to the teacher, to give in easy and graceful narrative the links which connect the present with the past.

Here is a story and a lesson the present generation is not too old to learn from :

"About ten years ago I had a patient suffering with acute pulmonary congestion. He was breathing with great difficulty as he sat up in bed, and unable to make full inspiration. A consulting physician who was called in, advised whisky and quinine, to give a fillip to the heart as he said, so that the heart should be better able to drive the congested blood through the lungs. Although I thought this would only increase the difficulty, I waived my opinion and prescribed the whisky and quinine. In a few hours I was summoned again to the patient, and found him gasping for breath and his face almost livid. My associate was not on hand and I was compelled to take the entire responsibility. Addressing the sufferer, I said to him ; ' My father who has been in his grave twenty years has been whispering in my ear all day—Henry, why don't you bleed that patient ? ' I expected an emphatic negative, particularly as he was an Irishman, for of all nationalities an Irishman most dislikes to be bled, except in a certain manner. To my surprise he assented to the proposition ; and in a very short time a copious stream was flowing from his arm. Presently he exclaimed as he drew a deeper breath—' Why doctor, I can breathe better already ! ' And so he continued to breathe more and more freely as the lungs were relieved of their burthen and the circulation through them restored. With my finger on the pulse I awaited the moment of complete relief and then tied up the arm, having taken about twenty-four ounces. He lay down in bed, which he had not been able to do for two days, rested in perfect comfort, had no return of the difficulty, and in four or five days was walking the street. The relation of cause and effect was never more palpable than that of bleeding and cure in this instance. The patient, now a venerable gentleman of three

score and ten, and presenting the appearance of health and vigor often meets me in the street and greets me with the remark.—‘it’s *that* bleeding saved my life.’ Such illustrations of the efficacy of blood-letting will invite olden time doctors a smile, as being common-place and too familiar for recital. In truth there is not in the whole range of therapeutics a fact better established than the remedial power of venesection in disease, even to the extent in many cases of emergency, of saving life.”

Although the following formula is hard to fill, Dr. Gibbons thinks it should be :

“Were I called on to furnish a formula for the training of a practitioner of medicine, I should require good material to begin with, a proper preliminary education, a year in a retail drug store with a course of lectures on *Materia Medica* and *Chemistry* in the College of Pharmacy ; six months divided between nursing the sick and cooking for them, and then such a curriculum in a medical school as you have just concluded. And then a year or two of country practice, with its hardships and vicissitudes, would throw a ray of comfort over all future corporeal trials incident to his career. In short, the practice of medicine calls for a versatility of power, a greater depth of resources, a wider range of qualifications, than any other occupation among men. A doctor must be a mechanic, a nurse, a cook, a chemist, a pharmacist, an anatomist, a physiologist ; he must have the wisdom of Solomon, the patience of Job, the independence of Diogenes, the philanthropy of Howard.

* * * * *

Such addresses have always a welcome place in our office.



Early Vaccination.—Dr. Russell, of Glasgow, has recorded an instance of an infant born into a small-pox atmosphere being vaccinated within twenty-four hours after birth. The child was born the day after its father was removed to the hospital with small-pox. The vaccination did well ; the child was not in the least disturbed in general health, and escaped a disease which would almost certainly have proved fatal. When small-pox is in the house or family, *no age must be considered too early* for vaccination, which appears to be as safe and quite as successful directly after birth as it is at a later period.—*Sanitary Record*, Nov. 15th.

OUR NEW YORK LETTER.*

Summary: Wyeth's Method of Treating Potts' Disease; Discussion—Thomas, on "A Novel and Safe Method for Removing Sub-mucous and Interstitial Uterine Fibroids"—Gibney on the Treatment of Sciatica by Strong Galvanic Currents—Is Swill Milk Unwholesome?—Garget as a Cause of Diphtheria—Abortive Treatment of Diphtheria.

46 WEST THIRTY-SIXTH STREET,

NEW YORK, February 9th, 1879.

Several noteworthy papers have recently been read in the various Societies; I regret, however, that my mention of them must be limited to a mere statement of their outlines. For this, your collating editor will doubtless make full amends by copious extracts from them when they come to him in complete form.

Dr. J. A. Wyeth read before the County Society a description of a new method of treating Potts' disease of the spine, which he claims is superior in every respect to any method that has hitherto been tried.

It is to be regretted that the inventor's experience was limited to a single case, for his principles and devices appear reasonable, and doubtless would have recommended themselves yet more forcibly, had their claims been supported by accounts of their actual application.

The three cardinal principles of Dr. Wyeth's new method are fixation, support and continuous extension of the diseased vertebral column. He admits that the two first conditions are secured by the proper application of Sayre's plaster jacket, Taylor's brace and other approved devices; but he says that none of these affords the extension which, he urges, is such an important element in the cure of the morbid process and the removal of the kyphosis. The apparatus employed is remarkable for its simple construction, and seems to be as easily applied as Sayre's jacket, and somewhat in the same way. It consists first of a plaster of Paris corset in two sections, one encircling the thorax, and the other the lower lumbar and pelvic region. Into each of these are inserted several tin plates,

*Going to press earlier than usual this letter is in a new position, but none the less interesting and instructive.

carrying staples, or slots, which receive the rod, by which the extension is to be made. These staples, or slots, furnish the points



of resistance, and as the corresponding parts are made to recede from or to approach each other by lengthening or shortening the rods, the two segments of the corsets extend the vertebral column, by virtue of the grasp they respectively have upon the upper and lower parts of the trunk. In this way may be overcome the sagging down or telescoping of the thorax which takes place as the grasp of the corset is loosened by shrinkage of the chest walls and continuous extension is secured by screwing out the rods to greater length. It is evident that extension at the diseased point is possible only when it is located in the lower dorsal or upper lumbar vertebræ, and, in effect, the solitary case which was cited in illustration was one in which the disease was in the dorso-lumbar region. Before and after coming under Dr. Wyeth's care the little boy had been treated by means of Sayre's apparatus and Taylor's brace, but without benefit, when the Wyeth extension was devised and applied. Relief from fatigue and pain followed its application immediately, and in a few months complete cure, which has now continued for nearly a year. The deformity was greatly reduced.

The accompanying cuts, for which I am indebted to Mr. Reynders, convey a good idea of the apparatus. The corsets may be made either of plaster of Paris bandages, or of leather braces—the former, of course, being much less expensive, but equally as effective.

It is to be regretted that Dr. Sayre, the great apostle of the plaster jacket, was not present to participate in the discussion. Dr. Frank H. Hamilton gave a very clear account of the disease, and the various modes of treatment, and spoke of the anatomical difficulties which oppose all efforts to extend the vertebral columns, even if it could be shown that any case of spondylitis was benefited by extension. He thought that the essential points in the treatment were support and fixation as far as possible, and any apparatus would be useful, which relieved the spinal muscles of the constant strain to which they are subjected in holding up the spine. A proper brace should also remove the pressure from the bodies of the vertebræ, by throwing it upon the oblique (?) processes and at the same time restrain all movement at the diseased point. He doubted the possibility of removing any deformity that is well marked. In reference to extending the spinal column by taking the points of resistance from the hip below, and the chest walls or axillary borders above, he thought that the anatomical formation render this impossible; for the thorax is a cone tapering upwards, and any corset, or brace, encircling it would tend constantly to slip upwards and afford no extension. As to the axillary borders these were formed by the latissimus dorsi and pectoralis major muscles, upward pressure against which would not produce extension of the spine, because of their points of origin—in case of the latissimus dorsi the lower dorsal and lumbar vertebræ, sacrum, and ilium, and of the pectoralis major the lower ribs. It seems to me that these anatomical objections are not well taken. It is true that the thorax tapers upwards, but this it does only above the sixth rib; below that it tapers downwards slightly, and thus offers means for a *point d'appui* for upward pressure. The latissimus dorsi doubtless tends, when acting as a whole, to draw up the pelvis, but Dr. Hamilton, I think, does not sufficiently consider the origin of this muscle at its upper part. Here its fibres run horizontally outwards to unite with the oblique and vertical fibres proceeding from below. Some distance from its insertion into the bicipital groove the muscle

is twisted upon itself, and the horizontal fibres are placed below the others, thus forming the lower edge of the posterior boundary of the axilla, and would receive the major effect of any upward pressure applied to it. The great pectoral muscle as well as the teres major doubtless likewise offer available points for counter extension.

Other gentlemen, conspicuously Drs. V. P. Gibney, and Leroy Yale participated in the debate, all expressing their belief that Wyeth's appliance deserved to be tested, but that its use would probably be confined to cases in which the caries was located in the lower dorsal or upper lumbar vertebræ.

Much skepticism was expressed in reference to the possibility of removing the deformity of Potts' disease by any apparatus.

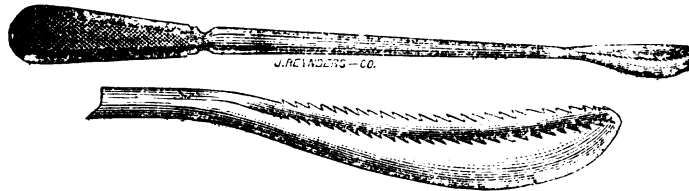
The presentation at the Academy of Medicine, of Dr. T. G. Thomas' paper on a novel and safe method of removing sub-mucous and interstitial fibroids attracted a large number of our gynecologists. He expressed himself very emphatically to the effect that fibroids are not to be attacked surgically except for some impending danger from them. By this, I suppose he meant when they cause exhaustive hemorrhages, or interfere by their bulk with important vital processes, or threaten by cystic or inflammatory changes to induce septicæmia, or when they seriously complicate labor. It must be remembered that fibroids belong to the class of tumors known as myomata, or, if they contain a notable element of connective tissue, as fibro-myomata, and are entirely benign in their character.

They often disappear after the menopause owing to a loss of the nutrition which the menstrual nixus supplies. Dr. Thomas said that it is an exception to the rule when an adult negro woman is found without a fibroid.

His method for their removal is practically by enucleating, or shelling out the tumor from its bed. An incision, generally crucial, is made at its lowest part extending through the mucous membrane and the muscular tissue proper of the uterus covering it.

These are separated from the fibroid first by the finger, and then a serrated spoon, devised by him, is introduced into the opening thus made, and passed around the tumor in every direction, with a gentle sawing movement. The entire fibroid is thus easily isolated

from all of its connections, and may be removed *en masse*, or piece meal if too large to be delivered by a pair of obstetric forceps or otherwise. There is commonly very little hemorrhage, and it is surprising in how short a space of time the operation may be completed—ten minutes sufficing in some cases to remove a tumor weighing several pounds.



The serrated spoon is shown in the accompanying figure, kindly furnished me by Mr. Reynders.

After the removal of the fibroid the cavity which is left may be washed out with antiseptic solutions, and ergot may be given to secure its obliteration by contraction of the uterus. The histories of six cases thus treated were presented; all were successful, except one, which was not expected to recover when the operation was undertaken.

Before beginning the operation it may be necessary to dilate the os uteri with tents and Barnes' dilators, and it is important to map out accurately the connections of the tumor by means of the flat whalebone sound which Dr. Thomas has also devised. In this connection it may be useful to recall the various methods, medical and surgical, which have from time to time been employed in for the removal of fibroids. First as to general medication to promote their absorption, may be mentioned the administration of astringents, alteratives (iodine and the iodides and bromides) and ergot—this latter given either by the mouth, or injected by the hypodermic syringe into the general cellular tissue or into the tumor itself, after the manner of Hilderbrandt of Königsberg. The danger as mentioned by Emmet, of exciting peritonitis or cellulitis, by the injudicious use of ergot should not be forgotten.

Allied to medication is the method of treatment by diet, iron and alkalis. An exclusively meat diet has found some advocates and Rigby has highly extolled the Kreuznach water, and McClintock the preparations of iron. It may be that any mode of treat-

ment which subdues to a marked extent the ovarian influence will tend to promote the absorption of fibroids, and therefore the great agency in this is the advent of the climacteric. Surgically, the treatment has been varied—pressure, electricity, puncture, incision, actual cautery, traction (Emmet) and normal ovariectomy (Battey).

In closing the discussion upon his admirable paper, Dr. Thomas said that with our present resources, embryotomy should never, as in the past, be resorted to in any case of labor rendered difficult by the presence of a fibroid. Now, the tumor ought first to be delivered, in the way described, and parturition be allowed to take its usual course. The presence of labor pains would not complicate, but rather facilitate, the removal of the tumor.

Dr. V. P. Gibney, of the Hospital for the Ruptured and Cripple read an interesting paper before the Academy on the treatment of sciatica by electricity. To premise, he discards wholly the use of the faradic current except in the treatment of rheumatic forms of sciatica. He uses the galvanic current only, and, contrary to accepted doctrine, as strong as the patient will bear. The positive electrode (a sponge) is placed over the lumbar or cervical spines, and the negative (a wire brush or metallic plate) is passed over the region of distribution of the affected nerve. The sitting lasts from ten minutes to an hour, and should be held daily for two or three weeks. A large number of successful cures were narrated with their full clinical histories.

Dr. E. C. Seguin said he would be disposed to attribute the beneficial results (which were very remarkable) to the counter-irritant effects of the strong currents employed, since these must have produced hyperæmia, mild vesication and papular eruption. In his hands sciatica had always proved very intractable. He had always used mild currents.

Dr. A. A. Smith's experience was given in full support of Dr. Gibney's methods, and he cited in a lucid manner the history of several cures obtained by himself with strong galvanic currents.

Dr. George M. Beard gave a technical account of the use of electricity in neuralgia. He discards faradic currents, and uses strong galvanism, but thinks individual peculiarities often indicate the kind to be used. He has not been able to determine satisfactorily that the location of the electrodes, i. e., the direction in which the current is passed, is a matter of importance.

The swill milk question has again come into prominence, owing to the agitation in reference to pleuro-pneumonia which threatens to interfere seriously with the exportation of live stock from this country to Great Britain. It is quite certain that this infectious disease is very wide spread. A large dairy stable, from which no insignificant part of Brooklyn draws its supply of milk, has been discovered on Long Island, in which 900 cows are haltered in the midst of disgusting muck and filth, and fed wholly upon distillery swill which flows through their troughs at a high temperature. Many cases of pleuro-pneumonia were found there, and it is alleged that when a cow died, her carcass soon found its way in an attractive form to the butcher shops. This stable is now under quarantine.

It is amusing to read in the public print a defence of swill milk, in which the writer, a prominent and highly educated practitioner, declares that it is nutritious and has no noxious properties. I do not know from actual experience that it is unwholesome, and neither the microscope nor quantitative analysis shows it to differ from what is regarded as pure milk, but the Brooklyn Board of Health has responded to this defence by ordering all swill milk to be poured into the sewers, and within a day or two, thousands of quarts have gone to the eels and little fishes.

A *propos* of milk reminds me of the relation supposed to exist between its consumption and the distribution of certain zymotic diseases. Epidemics of typhoid fever and scarlatina have been traced with much certainty to the use of milk, but the method in which the milk becomes capable of giving rise to these has not been made clear. It yet remains unknown whether it received its infection direct from the cows, or from the water used in washing the pails and cows, or in fraudulent dilutions.

Mr. Power, at a late meeting of the London Pathological Society, suggested the possible connection between diphtheria epidemics and the use of milk from cows suffering with garget. It is known that garget was found among the cows in the dairies near Princess Mary's Home, Woking, when the epidemic of diphtheria prevailed there. The matter has been committed to Dr. Burdon-Sanderson and other experts for investigation. In the meanwhile your State Board of Health can greatly aid in the inquiry by drawing the attention of country practitioners to the importance of ascertaining the condition of the dairy cattle in localities where diphtheria exists.

Garget is a disease which does not usually affect the general health of a cow, and may therefore escape notice. It is probably a lymphangitis of the udder, characterized by slight swelling and ulceration of one or more of the teats. The milk is said to be sometimes shiny or stringy, and may be stained with blood.

In reference to the abortive treatment of diphtheria I desire to record the essential details of two cases in my own practice. I was called at 2 A. M., to see a strong, robust child $2\frac{1}{2}$ years old; who was said to be in convulsions. I was at the bed side within ten minutes and found the child in the post-convulsive state, the thumbs still adducted and flexed in the palms. Inquiry elicited no satisfactory cause, either centric or excentric, for the convulsion. The pulse was 140, and the temperature 102.5° . It had been well and playful all the previous day, and without fever. The tonsils were deeply congested and swollen and covered each by a stellate pseudo-membrane.

I ordered fifteen grains of hydrate of chloral in lemon syrup and water, with a view to repress any return of the spasm; and the dose was to be repeated in two or three hours; if occasion should arise.

This was done in three hours, upon the child showing some restlessness. At 9 A. M., I again saw the child—pulse 100, temperature 100.5° diphtheritic patches on each tonsil, but smaller than before. It was fast asleep under the chloral influence, but was easily aroused. Potassium chlorate was ordered, internally and as a gargle. At 4 P. M., there was no more fever, pulse 90, temperature 97° in the mouth. A mere trace of diphtheritic membrane remained.

The next morning the child was quite well and passed from under my notice.

A few days subsequently a similar case presented, without however, the prodromic convulsion. From the pharyngeal appearances, and slight sub-maxillary swelling, and the elevated temperature and frequent pulse, the case was evidently one of diphtheria in the initial stage. Chloral was given as in the first case, and with similar effects and results. In twenty-four hours the child needed no more attention. In giving these meagre outlines of two interesting cases I recognize the fact that pseudo-membranous sore throat often

gets well spontaneously after a few hours. Nevertheless I ask myself whether it may not be possible to abort a threatened attack of diphtheria. Certainly this question is not negative by any *a priori* considerations. The poison is introduced from without, and why may it not be met promptly by its antidote, as in some cases the snake poison is by alcohol? It would be rash to pretend from the limited evidence that chloral is an antidote to diphtheria poison, still it has marked antiseptic properties, and perhaps prevents or limits the proliferations or multiplication of morbid cellular elements. It is also known to be an excellent anti-pyretic agent. Bouchut has shown that it may be safely given in any large doses to infants, even to the extent of producing surgical anæsthesia sufficient for major operations. From Fothergill we learn that its energy of action is in proportion to the intellectual development of the individual, which, of course, renders it least dangerous to infants and children. These statements fully accord with my own experience of its use. It was given in the first case above cited, as an anti-spasmodic, and the second because the diphtheria in the first had disappeared under its use. If it be true that in addition to its anti-spasmodic and anti-pyretic properties it possesses others of anti-zymotic nature, then may we reasonably hope to find in it a valuable prophylactic against diphtheria and other zymoses. In more advanced stages of these diseases after great multiplication of the poison germs has taken place, it would not be rational to expect to be able safely to introduce chloral sufficient to obtain effects possible at the outset.

My letter has outgrown its limits, and much matter which was pressing for insertion must be deferred.

DER.

Body Snatching in North Carolina.—The present Legislature, fearful of the desecration of graves by “resurrectionists,” has passed a law making it a felony to rob a grave, but giving the body of unclaimed criminals executed by the law, to medical colleges. As, since the death of the only medical college in the State, (the Edenborough College) there is no teaching establishment, graves are now sealed against intrusion from any quarter.

FAYETTEVILLE, N. C., January 4th, 1879.

Dear Doctor:—In office “clearing out” yesterday while cremating old letters and papers, your neat caligraphy caught my eye, and reminded me that it was about time to pay for the JOURNAL for current year. Among other things I saw a paper in different hand writing than, and perhaps, not so legible as this which I thought I would copy, as it might afford you some amusement and possibly your readers.

“A query naïvely put (‘What is Attic Salt?’) elicited the following descriptions: Attic salt—a compound of *sodalic* acid, and an hypothetical base *καλός*—Combining proportions indeterminate—varying:

Formula, (symbolic) sod. o+k.

1 ad + some x.

Natural History and properties. Found native in garrets, in diamond-shaped crystals, among book-worms. (May be manufactured in any locality).

Odor—Unctuous—shoppy.

Taste—Varying according to composition and idiosyncrasy. Some specimens acid, sour, offensive. Others pleasantly pungent and palatable.

Remedial qualities ancipital—chiefly employed in mental affections. Prophylactic virtues when properly timed conspicuous.

PH : D.”

A Veterinary Department in the Medical School of the University of Pennsylvania.—It may be of interest to the general profession to know that about ten months since the question was put to the Faculty of the Medical School of the University of Pennsylvania as to whether they would create and take charge of a Veterinary Department upon the condition that, as a first step, an endowment fund of \$50,000 were raised and presented to them. The Faculty referred the matter to the Trustees of the University, who voted to answer affirmatively and accept the proposition. Ever since that time the gentleman who made the offer, Mr. Horace Smith, has been engaged in collecting the stated sum, but he has thus far made no statment of progress made.

MEDICAL ANNOTATIONS.

RALFE ON THE EFFECT OF BICARBONATE OF POTASH ON THE ACIDITY OF THE URINE.

Dr. Ralfe confirms the observations that the urine was always more acid the day following the administration of bicarbonate of potash. Dr. Ralfe found the effect of the bicarbonate taken often after food, on the acidity of the urine, was different from that where it is administered before meals. Taken on an empty stomach, the acidity, on the day administered, was only slightly depressed, whilst, on the day following, the acidity was considerably higher than it was the day before the salt was taken. When given during the process of digestion, the acidity of the urine entirely disappeared; twice being neutral, once alkaline, whilst on the succeeding days there was no marked increase in the urinary acids. Hence we may assert that an alkaline bicarbonate, upon an empty stomach, increases the acidity of the system, while after a meal it diminishes it.

The therapeutical value of these observations is evident—1. In case of acid dyspepsia, as in lithæmia, the alkaline carbonates must be given after food and not before. 2. When the stomach itself is located with free acid, the result of fermenting undigested food or mucus, then the administering of an alkaline before meals will, by diminishing the high acidity, aid the digestive functions.—*London Medical Record*.

Richardson on Caustic Alcohol.—Dr. B. W. Richardson brought before the *Medical Society*, in October, the value of the ethylates of sodium and potassium as caustic agents. When caustic alcohol is applied to dry tissues no change takes place, but so soon as the part gives up a trace of water, sodium hydrate and ethylic alcohol are formed and the part is gradually destroyed by the caustic alkali. The action of the potassium alcohol is much more energetic than the sodium compounded. On the blood, the action of the ethylates is extremely rapid and marked; the red corpuscles being brought into solution and forming almost instant crystallisation of the blood, singularly like those described by Dr. R. Mead, as occurring in the blood after adder bites.

The white corpuscles, on the other hand, appear but little affected. Dr. Richardson has found the caustic alcohols, particularly the sodium alcohol, of great value in cutaneous nævi, lupus, and malignant ulcers.—*London Medical Record*.

The English medical journals have adopted the innovation of cutting their pages.

How to Stop a Cold.—Horace Dobell, in his little work on "Coughs, Colds and Consumption," gives the following plan for stopping a cold. If employed sufficiently early it is said to be almost infallible: 1. Give five grains of ses-carb. of ammonia and five minims of liquor morphine in an ounce of almond emulsion every three hours. 2. At night give $\frac{3}{4}$ jss. of liq. ammon. acetatis in a tumbler of cold water, after the patient has got into bed and been covered with several extra blankets. Cold water should be drunk freely during the night should the patient be thirsty. 3. In the morning the extra blankets should be removed so as to allow the skin to cool down before getting up. 4. Let him get up as usual and take his usual diet, but continue the ammonia and morphia mixture every four hours. 5. At bed time the second night give a compound colocynth pill. No more than twelve doses of the mixture from first to last need be taken as a rule; but should the catarrh seem disposed to come back after leaving off the medicine for a day, another six doses may be taken and another pill. During the treatment the patient should live a little better than usual, and on leaving it off should take an extra glass of wine for a day or two. —*Michigan Med. News.*

Successful Case of Tetanus.—Dr. Wm. P. Nicholson reports a case of tetanus in a negro boy 12 years of age. The tetanus came on in a fortnight after receiving a severe laceration of the foot by machinery. He had a convulsion while eating dinner, and a few minutes after his jaws were locked and he had marked opisthotonos. He was put in a quiet darkened room, and a teaspoonful of the following mixture ordered every three hours:

℞
Tr. Cannabis Ind., 3 ijss.
Glycerine, $\frac{3}{4}$ j.
Mucilage Acacia, 3 ij.
Cinnamon water to $\frac{3}{4}$ vj.

To each dose of this, ten drops of extract of ergot.

On the *tenth* day after the treatment was commenced the patient commenced to convalesce slowly.

Chloral hydrate in 3 i. doses were added to the cannabis indica, and the latter increased to 40 drops at a dose, and this combination controlled the spasms in a satisfactory manner.—*Southern Clinic*, February, 1879.

Cæsarian Sections.—Dr. G. Gaudin performed the Cæsarian successfully (*Archives de Tocologie*, September, 1878) saving both mother and child. Uterine contractions were so good, that no stitching was done except for the abdominal incision. Another case by Porro's method, operation by Dr. Fehling, (*Centralblatt für Gynäkologie*, Nov., 1878). The incision made from above the

umbilicus nearly down to the pubes, the uterus was drawn through the abdominal wound and on Esmarch's band fastened round the cervix; this done the incision was made into the uterus, and the child extracted. There was no bleeding from the uterus. It was then cut off with a scalpel above the Esmarch's band which had been previously fastened around the cervix, and the pedicle secured by a clamp. The patient died on the fifth day from septic peritonitis. The antiseptic method was begun, but the spray broke down in the middle of the operation.—*London Medical Record*.

Fœtal Length.—Dr. Delabout, of Rouen, has found out a rule for conveniently remembering the length of the fœtus according to its age, which although only indicating the average, is applicable to the great bulk of the cases. For the first six months of intra-uterine life, the lengths at different ages is indicated in centimetres by the square of the numerical of the corresponding month. At the end of the first month the fœtus measures one centimetre; the second month, four; the third month, nine; the fourth, sixteen; the fifth, twenty-five; the sixth, thirty-six centimetres. For the three last months the increase is from four to five centimetres per month. So that at the end of the seventh month it is forty; at the eighth month, forty-five; and at the ninth month, fifty centimetres.—*Lyon Medical*.—*Med. Times and Gazette*.

Professional Confessional.—The *Louisville Medical News* mentions that the *British Medical Journal* has begun the year, by opening a column for unsuccessful cases, and professional blunders. The names of the authors are not given. This will be instructive reading, no doubt, and will show as the *Medical News* suggests, that when a full confession is made, that neither medicine nor surgery in the hands of the masters is that beautifully smooth business the uninitiated would suppose it to be.

[We would cheerfully give room in the JOURNAL for such confessions, but the space would be very limited].

Shortia Galacifolia.—North Carolina already famous for rare plants, has had restored to her floral treasures the above named plant. Many botanists have coveted the glory of re-discovering it, but the honor was reserved for Mr. Hyams, of Statesville, N. C. We learn that a party composed of Dr. Asa Gray, Mr. William M. Canby, of Wilmington, Del., Mr. Pennfield, of Philadelphia, and Mr. Hyams will make a botanical tour of our western mountains next summer.

To Avoid Scars after Incisions.—Dr. John H. Packard, of Philadelphia, recommends (*Phila. Med. Times*, Dec. 21, 1878) that in making superficial incisions the skin should be divided obliquely,

as in this way he claims scarring can be avoided. This method was suggested to him by witnessing the effects of an accident, a lady having fallen while carrying a china dish, a piece of which made a long, gaping, incised wound in her hand, the sharp knife-like edge of a fragment having cut through the skin very obliquely. After approximation the wound healed readily, almost without a scar. The traces of the injury could scarcely be discovered a few weeks afterwards.

Morphia in Labor Pains.—Dr. Ernoul, of St. Malo, observes that hypodermic injections of morphia act most efficaciously in the relief of even the most violent pains of labor when these are excessive, and especially when produced in primiparæ by prolonged distension of the perineum. To relieve these it is only necessary to inject in the perineum one centigramme of the hydrochlorate of morphia. [Seven to ten drops of Magendie's solution in the arm is just as effectual]. The uterine contractions are not sensibly diminished, but only less painful. These injections, however, should not be used in women predisposed to hemorrhage.—*Med. Times and Gazette, from Bull. de Thérap.*

Apomorphia in Croup and Acute Laryngitis.—Dr. Smidowitsch (*Med. Woch.*) recommends apomorphia as an expectorant, in doses of one-sixth to half grain every hour (one to one-third grains *pro die*) in cases of croup and acute laryngitis.—*London Medical Record.*

DEATH OF EMINENT MEN.

JACOB BIGELOW, M. D.

Dr. Jacob Bigelow, of Boston, recently died at the advanced age of 91 years. He was formerly a Harvard professor; he was ex-president of the American Medical Association and in other learned societies held high office. He was the author of the "American Medical Botany," a book well known to the generation of medical men now just passing off the stage. His memory is greatly revered in Boston as the founder of Mount Auburn Cemetery.

J. B. S. JACKSON, M. D.

Dr. J. B. S. Jackson is another great loss to the profession of the same city. He died at the age of 72. He was "a pathologist of the old school. He was not a microscopist. But his unaided eye

often told the truth when his microscope failed." His life-time work was in pathological studies, and "it was bound up in the Warren Anatomical Museum and the Cabinet of the Society for Medical Improvement. His catalogue of the former is an octavo volume of 750 pages, and of the latter 350 pages."

JOHN B. BIDDLE, M. D.

Dr. John B. Biddle, Professor of Materia Medica and Therapeutics in the Jefferson Medical College, died in Philadelphia on the 19th of January. He was a teacher of eminence, and author of a work on Materia Medica.

DR. WILLIAM E. FREEMAN.

This well known homœopathic physician died in Wilmington on the 23d of February, 1879, aged 51 years.

His whole professional life had been one round of merciful acts to the poor, and his declining days were sweetly tempered by the consolation which such a life surely brings. A large concourse of friends and beneficiaries attended the funeral ceremonies, making altogether the most imposing mark of esteem accorded to any citizen in our recollection.

TO OUR READERS.

GENUINE FLUID EXTRACTS.—We have had the pleasure of testing the quality of some fluid extracts made by MESSRS. SHARPE & DOHME, of Baltimore, and have supplied medical friends with samples from this house, and we are prepared to pronounce them to be very superior.

We mention particularly extracts of *USTILAGO MAIDIS*, *KAVA KAVA*, American mistleto, (incorrectly called *VISCUM ALBUM* when it should be *PHORADENDRON FLAVESCENS*) and *JABORANDI*. This firm is courteous, prompt and reliable in their dealings.

NEW JERSEY WINE.—This Wine for sickness has long been in popular favor, but by no means intoxicating in its nature. We refer to Speer's Port Grape Wine, which has been introduced into the hospitals and among the first families in New York, the principle drug stores in this city, and in London and Paris, by Alfred Speer, of Passaic, N. J., who has devoted himself for several years to the cultivation of the Portugal Grape, and the study of fermentations and producing an article, the medical properties of which are said by gentlemen of reputation to be unsurpassed. Mr. Speer ferments his wine by a new process, peculiar to himself, without the addition of sugar or spirits. We doubt whether there is a vineyard in the old or new world that can yield a wine at all comparable to this in richness or delicacy of flavor. All first class Druggists keep it.

The above extract from the *New York Herald* shows the appreciation in which Speer's Wine is held abroad. We have drank the wine and can truthfully endorse what the above extract says concerning its good qualities. The way in which it is matured by Mr. Speer gives it a finer flavor than any wine we ever drank.—*Boston Traveler*. Salesroom 34 Warren Street, New York.

BOOKS AND PERIODICALS RECEIVED.

Twenty-sixth Annual Announcement of the Medical Department of the University of Vermont. For the year 1879.

Report of the Board of Health of the State of Michigan for the year 1878.

Report of the Board of Health of the State of New Jersey, 1878. II. Trenton, N. J., pp. 247.

The Brazilian Tea, or Cha-maté; erroneously called Paraguay Tea. (*Ilex Paraguayensis*). By Charles W. Zaremba, M. D., pp. 19.

Catalogue des Graines Récoltées au Muséum d'Histoire Naturelle de Paris, en 1878. J. Decaisne, Professeur, Administrateur, pp. 22.

The Ophthalmoscope as a Diagnostic means in various forms of disease. By Joseph A. White, M. D. Reprint from Richmond and Louisville Med. Jour. 1878.

Electricity in its Relation to Medicine and Surgery. By A. D. Rockwell, M. D., pp. 28. Reprint from Virginia Medical Monthly.

Special Report of Homœopathic Yellow Fever Commission, ordered by the American Institute of Homœopathy. For presentation to Congress. 1879. New Orleans, La., pp. 56.

The Transactions of the Medical Society of Virginia for 1878. Bound with Virginia Medical Monthly. Containing a steel engraving of Julian J. Chisolm, M. D., pp. 554 and 55.

Address of W. O'Daniel, M. D., President of the Medical Society of Georgia. Delivered at the 29th annual meeting.

A case of Myxofibroma of the Auricle. By C. R. Agnew, M. D., of New York. Pamphlet, 2 pages, with heliotype plate.

Hepatic Abscess, with some remarks on Dr. Hammond's paper. By Walter Coles, M. D., of St. Louis. Reprint from Medical and Surgical Journal, October, 1878.

The Treatment of Spine Curvature, by continuous extension, a modification of the Plaster of Paris Jacket. Read before the New York County Medical Society, by John A. Wyeth, M. D., of New York. Pamphlet 8 pages.

Statement of the Affairs of the Insane Asylum. A report made by Dr. Eugene Grissom, Superintendent, to the Chairman of the Senate and House Branches of the Committee on the Insane Asylum of North Carolina.

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THOMAS F. WOOD, M. D., }

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ORIGINAL COMMUNICATIONS.

OPHTHALMIA NEONATORUM.

By **RICHARD H. LEWIS, M. D.,** Raleigh, N. C.

Blindness under any circumstances, even when occurring in the very old, who having almost completed the journey of life have least to lose, is one of the saddest of all afflictions. When it falls upon those in the prime of life, or worse, upon those who have not yet passed the period of joyous youth, and nips in the bud all those bright and happy dreams and anticipations of the future with which the mind of the young is always filled, it is sadder still.

But saddest of all it is, it seems to me, when the "blackness of darkness" settles down over the eyes of the newly born, before they have consciously seen even the glorious light of day, there to remain as long as life shall last, dooming the poor unfortunate to a life of helpless dependence, and in many instances to want and positive suffering. It is true, that those who have never seen do not fully realize their privation, and that their feeling of regret is less keen than that of those who have once enjoyed sight; but that

negative happiness is more than counter-balanced by the deficiencies resulting from their never having had the use of the most important of the senses, as will, I think, be made apparent further on.

Such as have lost their sight later in life, have, previous to that calamity, acquired an amount of knowledge by means of the "unconscious education" received through that sense, which astonishes us when we reflect upon how much of our own knowledge, and of a kind too that could have been obtained in no other way, has been taken in through the eyes. They have secured definite ideas of color and form in the abstract, especially of the more delicate phases of the latter, and they possess, indelibly stamped upon their memories, innumerable examples of both in the concrete. In them the conditions necessary to a high development of the mind are fulfilled, they can appreciate what is told or read to them of the physical world, and their education can be made much more perfect and complete, and their pleasures of course greatly increased. Besides, they have stored up an immense amount of raw material, as it were, upon which the imagination can draw, *ad libitum*, in making up scenes of beauty for the inspection of the mind's eye. A few pieces of colored glass in the kaleidoscope can make, it is said, almost an infinite number of combinations; the number of combinations of bits of form and color possible to the kaleidoscope of the mind, passes comprehension. The imagination is always highly developed in the blind, and they have it thus in their power to weave the most pleasing fancies, to build the most gorgeous air-castles of endless variety; and while such employment is neither profitable nor useful, it is certainly a never-failing source of pleasure, for it is well known that the happiest among men, are those who dwell a large portion of their time in *châteaux en Espagne*.

In this way they can project their thoughts into external objects—in a word, get out of themselves.

On the other hand, those blind from infancy have absolutely no conception of color, and their ideas of form, derived solely through the sense of touch, must necessarily be crude and imperfect. They can tell that an object is round or square, but of form in its more beautiful and graceful manifestations they have no knowledge;—the shape of a box or biscuit they can realize, but to such modifications of form as are seen, for example, in the waving wheat-fields, or the

rippling surface of a moonlit lake, their eyes, both physical and mental, are forever closed. Of the physical world their knowledge must be exceedingly meagre, and having failed to acquire the mass of facts in the possession of their more favored brethren in affliction, the foundation upon which is to be based their mental structure, must, in the nature of things, be more narrow and circumscribed. They are then not capable of as high an intellectual development, and are compelled to occupy a lower plane in the scale of spiritual being. Besides, they are unable to direct their thoughts into channels external to themselves with such facility and with so much pleasure; and consequently they are more prone to brood over their misfortune, one would think.

I am not prepared, however, to assert positively that they are not as happy in this way as the others never having had sufficient opportunities of practical observation to form a just opinion; but, inasmuch as they must be intellectually inferior, their happiness, must be, to say the least, of a lower order. To use a strong illustration: a half-witted man may, after his fashion and according to his capacity, be as happy, or more so, than a highly intellectual man; but one moment of the philosopher's happiness is worth a life time of that of the idiot.

At any rate, it is clear, I think, that those blind from infancy are more deeply afflicted than other blind persons who have first enjoyed some years of sight; and I have been led to say thus much upon a subject that some may think superfluous, for the purpose of showing, that if there can be degrees in the responsibility attaching to such cases, it rests upon us with peculiar heaviness in those cases of threatened blindness, occurring in the earliest dawn of that short day we are allowed on earth.

Its applicability to the subject in hand appears, when I assert that the inflammation of the eyes of the newly born stands at the very head of the list of, certainly incurable, blindness occurring at any and all periods of life; and, that of the blindness coming on in the first few weeks after birth, it is the almost invariable cause.

Mr. Carter, in his recent admirable work on the eye, when speaking of this disease, says, that it is supposed to be the cause of nearly one-half the blindness at present existing in England. I hardly think that the proportion would hold good altogether in this country,

for two reasons; first, because in England, on account of the greater abundance of eye-surgeons, those cases that can be remedied by a timely operation, seek and obtain relief, while with us very many cases, notably congenital cataract, are neglected, either because the family physician has not the instruments necessary, or because of his reluctance to surgically interfere with an organ so delicate as the eye. There are a number of such cases at present in our asylum for the blind, which no doubt could have been given their sight by an operation during their infancy; but now, from non-development of the retina, it is too late. The other reason for the relatively larger proportion of blindness from the ophthalmia of the new-born in England, is the greater crowding of the inhabitants into filthy tenements, and the consequent violations of the laws of health which do not occur on this side of the Atlantic to such an extent, except possibly in a few of our largest cities. Rural populations are much less liable to this disease, and we would, therefore, expect to find a minimum of it in our own State, and doubtless it is as rare here as anywhere; yet, nevertheless, it is the most frequent cause of blindness among the pupils at the asylum, and I learn, from a list kindly furnished me by the matron, that of those who lost their sight under the age of three years, about 70 per cent. became blind during the first few weeks of life, and presumably, from the disease under consideration.

From the above it appears that the inflammation of the eyes of the newly born is the most destructive to sight of all the diseases of the eye, and consequently, there can be none in that class of more interest to the physician, or more deserving of our careful consideration; particularly, when we note the fact, that if promptly taken in hand, and properly treated, it rarely ends otherwise than in recovery. And it is of interest, not so much to the specialist, as it is to the general practitioner, for it is the accoucheur who first sees the disease, and who in a large majority of cases, is called upon to treat it.

Ophthalmia neonatorum, or to speak more accurately, the conjunctivitis to which the newly born are peculiarly subject, is not a specific disease, possessing as it does, the same general characteristics as inflammations of the conjunctiva in older persons; but, on account of its greater gravity when attacking those of such tender

age, and because of certain modifications resulting from the infantile organization, it deserves, and in the best text books it has been given, a special name and a section to itself.

The causes of this affection are various, but in most instances it can be traced to a want of cleanliness in one shape or another; and generally, it is the result of an inoculation of the eyes of the infant with some vaginal discharge, leucorrhœal or gonorrhœal, either directly, during the passage of the head through the vagina in delivery, or, indirectly, through the hands of the attendants, or clothes soiled with it. "The impure air of a room filled with excrementitious exhalations, smoke, dust, or acrid vapors, as well as the musty damp air of an unventilated room," is a frequent source of this disease; and the children of the poorer classes who inhabit such tenements are much more liable to it than the children of those in better circumstances. It not infrequently owes its origin to exposure of the eyes to bright lights soon after birth, or to draughts of cold air, or other irregularities of temperature which would be likely to excite catarrhal trouble in other parts of the body; for the potency of the catarrhal influence, whatever it may be, in producing conjunctivitis, all will admit, who have observed the epidemics of "sore eyes" that often prevail at the same time that "colds" of various kinds are peculiarly rife. Still another cause, is the entrance into the eye of some of the soap used in washing the child, or of the whiskey, that is by some midwives "absurdly rubbed over its head."

It makes its appearance almost always within the month, and generally during the first week of life, and in a majority of cases attacks in the beginning only one eye, but it is sure to extend to the other in a very few days, unless we are successful in protecting it from the discharge—a very difficult thing to do, by the way. In intensity it varies from scarcely more than an irritability of the conjunctiva, to full blown gonorrhœal ophthalmia, there being every degree between the two extremes. Some writers recognize two forms, the catarrhal and the purulent, and while such a division of the subject is not demanded by the scientific requirements of the case, as it is one and the same disease throughout, and it is impossible to draw a sharp line of demarkation between the two forms, they melt so imperceptibly the one into the other, yet I think it advisable,

as facilitating the description of the disease, and as affording a more accurate guide to treatment.

The term catarrhal is applied only to the milder forms, those in which the discharge is mucous, or at worst, muco-purulent in quality, and limited in quantity, while the term purulent, is, as its name implies, used to designate those cases of greater severity in which the discharge is purulent in character, and, in some of the worst cases we may almost say, *unlimited* in quantity.

In examining a case of the catarrhal form, the first thing that attracts our attention, is an accumulation of dried mucous at the corners of the eye and upon the lashes, glueing them together, and a greater or less amount of puffiness and swelling of the lids. This puffiness of the lids is usually a very prominent symptom; and is attributable to the laxity of the infantile tissues.

On opening the eye we observe, that the edges of the lids are red and not as thin as they should be, and, everting them, we find the palpebral conjunctiva thickened, and diffusely and uniformly red, and that of the globe exhibiting a network of engorged vessels with meshes of varying size according to the severity of the attack, through which the white sclerotic shows. Lying on the inner surface of the lower lid, and particularly on the retro-tarsal fold where the conjunctiva leaps over from the lid to the ball, we perceive flakes or strings of coagulated mucous or muco-pus.

In the purulent form we find all these symptoms exaggerated. The lashes are a mass of matter, and at the inner corner of the eye in most instances, is a little pool of pus, while the redness, puffiness, and swelling of the lids is marked, the upper lid being frequently so much enlarged as to overlap the lower. Opening the eye we find it literally bathed in pus, and after removing the discharge, we see that the palpebral conjunctiva is very red, very much thickened and swollen, and more or less rough in appearance from the enlargement of the papillæ; and that the ocular membrane is likewise diffusely red and swollen, and very often corrugated into concentric folds around the cornea, presenting the condition known as *chemosis*, which is due to a serous effusion into the sub-mucous tissue of the globe. In the severest cases the swelling of the lids is so great, that they "appear as large tumors in front of the orbital opening," though this swelling may, for the reason

previously given, be excessive even in the milder forms,—and they glow with an erysipelatous blush. The conjunctiva is greatly thickened, looks hard and branny, and the chemosis is excessive.

The discharge, which in the beginning may be thin and serous and somewhat scanty, speedily becomes purulent, and so profuse that on separating the lids it gushes in a stream down the cheek. Indeed, the pus is secreted with such rapidity in some of these cases, that it can actually be seen forming on the conjunctiva which had been cleansed a moment before. It is often streaked with blood, and the turgid conjunctiva will bleed frequently at the slightest touch, but it is a matter of no significance as the hemorrhage will be promptly checked by a return of the lids to their proper position. There is apt to be fever, general as well as local, and the little patient suffers much from pain.

In examining every case, mild or severe, a view should, if possible, be obtained of the cornea, for upon its condition will depend the prognosis and, to some extent, the treatment ; but if it cannot be easily accomplished it is better to desist. Force should never be employed for three reasons ; first, because it is not apt to accomplish the purpose, owing to the redundancy of tissue and the contraction of the orbicularis ; secondly, because there is danger of emptying the globe if the cornea be already thinned by ulceration (such accidents have happened) ; and thirdly, because the crying and struggling of the child will be likely to increase the congestion and aggravate the inflammation.

It can, however, be safely done by gently lifting from the ball, and elevating the upper lid with a retractor, if the physician happen to have such an instrument. Whenever the lids, and particularly the upper lid, is everted for the purpose of examination, or for receiving the application, it should be promptly returned without fail to its proper position, as there is a natural tendency to ectropium and it may remain permanently everted. I need not say that in all manipulations of the eye the utmost care and gentleness should be employed.

The disease runs its course in from one to eight weeks according to the severity of the attack. In the milder forms it advances slowly, reaching its acme usually in a little less than a week ; but in the worst cases it may attain its height in two or three days and totally destroy the eye in that time.

The danger to the eye consists in the liability to an extension of the inflammation to the cornea, and that liability usually bears a direct ratio to the amount of swelling of the ocular conjunctiva, or chemosis. The effusion into the sub-mucous cellular tissue compresses the vessels which impinge upon the edge of the cornea and furnish it with nourishment, and upon the amount of this pressure, depends the character of the lesion in great part. If the calibre of the vessels be only partially diminished, it is probable that the corneal lesion will be a circumscribed infiltration, or a restricted ulceration ; while, if it be more or less completely obliterated there is apt to be sloughing of the cornea *en masse*.

The prognosis under proper treatment, if the cornea be bright and clear and entirely unaffected at the time the case comes under care, is, I think I may safely say, almost invariably favorable. I say *almost* invariably, for I cannot altogether agree with Mr. Carter in his assertion that no case of ophthalmia neonatorum should *ever* end in loss of sight.

The experience of other surgeons equally as distinguished, is that there are some rare cases, which are nearly always due to gonorrhœal infection ; that in spite of the most skillful treatment, rush on to destruction of the eye ; and while I have been very fortunate myself in never having met with one of these cases, nor having had one that has been under my care from the beginning which ended otherwise than in perfect recovery, I remember very well a case that I was once called to see in consultation with one of the ablest and best informed physicians of my acquaintance, in which, notwithstanding the employment by him from the commencement of the most approved treatment, there was ulceration of both corneæ, quite extensive in one and resulting in the condition known as hydrophthalmos and complete loss of the eye.

In this case the conjunctival inflammation was never excessive, and I attributed its untoward end chiefly to the weakly condition of the infant ; and that leads me to say that the prognosis will be modified to some extent by the general health and strength of the patient.

Now while the outlook is exceedingly bright and promising if the suitable treatment be used, it is very gloomy if the disease be neglected, as it so often is through the ignorance of parents or mid-

wives, in thinking it a trifling matter, and in relying upon "a little mother's milk," an "alum curd," or some such remedy until irreparable damage is done. I do not deny that a great many cases get well any way, but it is equally as true that very many others eventuate in blindness when the sight could have been saved; and I feel it my duty to urge upon my readers the importance of impressing upon the mothers among their patients, and the midwives of their acquaintance, the fact, that a running from the eyes of a new born child is *not* a trivial matter, be it ever so slight, for there is no telling how soon it may become severe, and also, that they should always promptly summon a physician.

In the matter of treatment the first thing to be looked to, is the prevention of the disease. Upon referring to its causes we will at once realize that the most scrupulous attention to cleanliness in everything, and everybody about the child, will be most effective in this. If the parturient woman be known to have a vaginal discharge of any kind, and, more particularly, if she be the subject of gonorrhœa, the vagina should be well washed out by the injection of warm alkaline water during the labor, and the child's eyes should be washed first as soon after its *début* upon the world's stage as possible. The injections can do the mother no harm and they may be the very simple means of saving the eye-sight of her offspring.

Great care should be observed on the part of both mother and nurse to see that their hands are always clean before they handle the baby, and that all sponges and cloths of every description used about it are pure, and untainted by foul matter of any sort.

Care should be taken likewise to see that the room during the first week or two of the infant's life, is kept moderately dark, and that its eyes are protected from such sudden changes from darkness to light, as may result, for example, from the opening and shutting of an outer door. This difficulty is chiefly encountered among the poorer classes, notably with us among the negroes who, for the most part live in cabins of a single room, and we should always see to it that a protecting screen of some sort is "rigged up," or that the bed and cradle are placed behind the door. By this means too the mother and child are also shielded from dangerous draughts, but in shutting out the draughts and too much light, we must be on our

guard not to overdo it and exclude the proper amount of ventilation. When we call to mind the fact that the whole family, in many instances consisting of father, mother, and a half-dozen or more children, occupy this one room, and that soap and water are in great part strangers to their skins, we can appreciate the necessity for ventilation.

Fortunately, however, for them, their dwellings are generally so full of cracks that the perfection of ventilation—"the admission of fresh air through numerous small openings," is already arrived at. If the disease shall have attacked one eye we must endeavor to prevent its extension to the other; though we very often fail in our efforts. The simplest plan is to place a little soft cotton over the eye, a piece of oil silk over that, and to secure the whole with a bandage. This should be renewed once every day and the eye examined, and if there be no sign of inflammation it should be replaced.

As cleanliness is the most important thing in the prevention of the disease, so it is a *sine qua non* in the treatment after it is once established, as it seems to me any one on a moment's reflection will admit, though it is by no means uncommon for physicians to prescribe a lotion, and probably a very good one, to be dropped into the eye, without saying a word about first removing the discharge. It is self-evident, that before any curative action can be expected from a remedial agent, the administration thereof must be made under such conditions as admit of the exercise of its peculiar healing properties, and the condition essential to the advantageous employment of local astringents, the class of remedies demanded by the disease under consideration, is, that they shall come into immediate contact with the diseased tissue. Therefore in the proper treatment of ophthalmia neonatorum, when the discharge is at all profuse, it is absolutely necessary that it be removed before the topical application is made. This is usually done in one of these ways; either, with a soft camel's hair brush, or by allowing a stream of water to trickle into the eye from a sponge, or by washing it out with a syringe.

Some object to the syringe on the ground that there is danger in its careless use, of mechanically injuring the conjunctiva, and that the stream is apt to be jerky and at times is thrown with too much

force. I think, myself, that it is not advisable to use any syringe that cannot be manipulated with one hand, nor one that does not work very easily, but there can be no objection to a rubber ball syringe, the simplest form of which is seen in the ordinary drop-tube that ought to be in every drug store, and which answers the purpose admirably. With that little instrument and the most ordinary care, the eye can be safely, quickly and efficiently cleansed, and I much prefer it to any other method, though I am in the habit of supplementing it with the camel's hair brush to remove any fragments that obstinately adhere.

It is always best for the physician to cleanse the eyes and make the application himself whenever he makes his visits, so as to instruct the nurse, and to be sure that it is, at least occasionally, properly done.

The simplest way in detail of doing this is as follows: Having spread a towel over his knees, let him place the child across his lap on the side of the eye that is to be washed, with a sponge or soft bit of rag under the temple to catch the water and discharge.

Then, having tenderly separated the lids with the fingers of his left hand, let him inject a slow, steady stream of water or some astringent lotion into the inner corner of the eye, so that it must pass over the whole diseased surface before it makes its escape on the rag at the outer canthus.

He should be very careful that none of it rebounds into his own eye, as the discharge is exceedingly contagious, and he might in that way contract the disease himself. The syringing should be kept up until the eye is clean or nearly so, when, as above intimated, it may be supplemented with the brush.

This cleansing process ought to be repeated just as often as the eye becomes filled with the discharge, but as a nurse is more apt to carry out definite directions that demand no exercise of judgment (a quality totally lacking in many) on her part, it is safest always for the physician to decide himself how often it is necessary, and to direct that it be done at regular intervals, long or short, as the case be mild or severe, from every four hours to every ten or fifteen minutes during the day, and not quite so often during the night.

Almost any astringent will serve a good purpose in the treatment of this affection, but those most commonly employed, are the

nitrate of silver, sulphate and acetate of zinc, alum, acetate of lead and tannic acid.

Of these, the best in the estimation of oculists generally, and certainly in my own opinion, is the nitrate of silver. The acetate of lead is an excellent remedy if the cornea be intact, but owing to its liability to undergo chemical decomposition and to become deposited upon the abraded surface, if the cornea happen to be ulcerated, in the form of the insoluble carbonate, producing a permanent opacity, it is best, as a rule, to omit it.

If I were called on to define exactly the treatment I would specially recommend, I should say this : Cleanse the eyes in the manner above described with a lotion composed of sulphate of zinc one grain, alum three grains, water one ounce, which, by the way, is the favorite remedy of the Surgeons of the Royal Ophthalmic Hospital of London, just as often as the accumulation of discharge demands, and every 12, 8, 6, or 4 hours, according to the severity of the case, instil into the eye a drop or two of a solution of nitrate of silver of the strength of two grains to the ounce of water.

Under this treatment, if promptly undertaken and faithfully carried out, I am confident that very few cases would fail to recover completely.

In the very mildest form it is generally sufficient to drop into the eyes a little of a weak solution of sulphate of zinc, gr. i—ij. to the ounce, two or three times a day. In the worst cases, where the swelling and chemosis are excessive and more or less tense in character with a scanty serous discharge and fever, it is well to use cold compresses to the closed lids, if their proper application can be assured; but if not, it is best to omit them, as improperly applied they do more harm than good. When obtainable, it is preferable to have a block of ice at hand, with several pieces of lint or soft folded linen lying on it, so that, as soon as the piece on the eye becomes in the least warm, it can be immediately replaced with a fresh one; and when the inflammation runs very high this will have to be done every three or four minutes—hence the difficulty of having it well done. If ice cannot be had the coldest water available will answer. The compresses should be kept up for at least a half hour at a time, and repeated several times during the day and night.

In the earliest stage when the swelling is very great and tense and

the discharge is thin and scanty only the weakest astringents are admissible, but as soon as the swelling subsides somewhat, as will appear from a slight wrinkling of the skin of the upper lid, and the conjunctiva becomes a little relaxed, and the discharge purulent and profuse, it is well, in addition to the faithful use of the zinc and alum lotion and the weak solution of silver, if that fails to check the disease, to apply, once a day, with a camel's hair pencil, to the inner surfaces of the everted lids, a little of a solution of nitrate of silver of the strength of ten grains to the ounce, provided its effect is partially neutralized in a few seconds, and before the lids are returned to their natural position in contact with the globe, with a solution of common salt applied with another brush. It is sometimes advisable in these cases to scarify the swollen and chemotic conjunctiva—it relieves pressure, and the local depletion is often of benefit, but it should always be done after the application of the strong silver, for if done before, the caustic may go too deep in its action.

If the cornea become involved, the only change in treatment indicated is the addition to the other remedies of atropia, or belladonna in some form. The liquefied extract may be painted over the lids and around the eye, or better, a drop of a two grain to the ounce solution of the neutral sulphate may be instilled twice or three times in the twenty-four hours; but remembering the highly poisonous character of the drug, and the tender age of the patient, it is important to keep a sharp lookout for any constitutional symptom (dryness of the throat, flushing of the face, feverishness, &c.,) and immediately upon their appearance discontinue it for a time.

If the disease show a tendency to become chronic it is often of advantage to vary the astringent, as any remedy when long continued is apt to lose some of its virtues, or best of all, if it be possible, to order a change of climate.

I recall a case I had when living in Savannah, which, having obstinately resisted the most conscientious treatment with almost every known astringent for several weeks, was finally cured by a weak collyrium of zinc *and* two or three days at sea.

It is probable, as I have communicated nothing specially new or original in what I have had to say, that I have proven tedious to some of my readers, but, inasmuch as the text-books on the diseases

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with them I gradually dilated the œsophagus, so that in a fortnight he could take solid food tolerably well. When the dilatation was sufficient to admit the largest bougie, he took food freely, but would choke occasionally, necessitating the use of probe.

This state of things continued until October, 1874, when Bennie choked while eating a black locust pod. I attempted immediately with œsophageal probe to remove the obstruction but failed after repeated efforts, on that evening. He passed a very restless and distressed night, by his constant and fruitless efforts to clear the passage. On the following day I offered to use the probe again, when he begged that I would not, saying that he would rather die than endure such suffering. I desisted, and determined to leave him to nature. So complete was the obstruction from the seed, that he was not able, so far as we know, to swallow even *a drop of water for fourteen days*, though his efforts were constant. During this time I threw into his bowels, twice daily, two eggs with a half pint of sweet milk, with a Davidson syringe; this would pass off every twenty-four hours as well digested fœcal matter. Such a fast had reduced him to a complete skeleton, and on the night of the fourteenth day, while resting on his pillow, in my arms, he said, in a low, weak voice, "Pa, it felt as if something as big as my fist passed out of my throat; please give me a little water now and see if I can swallow." The water was furnished, and Bennie to his great surprise and delight, drank easily; and without difficulty ate a glass of grape jelly. When bed time came, and preparations made for retiring, he asked if we thought he "could swallow when morning would come?" being assured that he could he soon fell asleep, and awoke the next morning "all right." There was no move from the bowels until the second day after relief, and in the first discharge, we caught the *seed entire*, and it was at least triple its normal size. Since this he has had no difficulty in swallowing, eating food indiscriminately.

The stricture, I am satisfied was confined to a narrow point; for in introducing the probes, they would pass easily until the obstruction was reached, and then would pass with a sudden jump, as if there was a partial septum from which they slipped; so that the seed either sloughed out the septum, or by its enlargement broke down the contraction.

SOME REMARKS ON AMPUTATION OF THE PENIS.

By W. W. LANE, M. D., Wilmington, N. C.

Towards the latter part of October, 1878, a well-to-do colored farmer and old family servant, about fifty-two years of age, consulted me for a diseased condition of the penis, for which he said he had been treated by a country physician for syphilis. The only item of his previous history worth mentioning is that his wife had died of cancer of the breast, the spring before the disease attracted his attention.

I told him at once he was suffering from cancer and that there was no cure but removal, and showed the case to my friends, Drs. Anderson and Wood, who quickly coincided with me in the diagnosis.

The disease commenced in the early part of the summer from a little fungous growth behind the corona glandis which continued to grow and give pain until he came to consult me at which time the disease had bursted through the prepuce and presented the appearance of a cauliflower exeresence. In accordance with my advice, he came down in a few days and submitted to the operation of removal of the organ.

The disease had made such progress, taking possession almost of the entire penis, with fistulous openings here and there, that I found it necessary to amputate close up to the junction with the body.

Not having a galvano-cautery, I used the old fashioned way of removal by one sweep of the knife. The hemorrhage was considerable, necessitating the ligation of several arteries.

The mucous membrane of the urethra was attached by suture to the integument, and the wound covered with carbolized cotton dressing, and bandage.

No catheter was used; the stump granulated and healed kindly, the skin closing over the face of it, puckering and narrowing, over the urethral orifice. Finding the latter was becoming contracted I placed a short bit of catheter in the opening which relieved the trouble and the patient has entirely recovered.

Since the first of February he has called on me, and seems thankful to have been relieved from so distressing and dangerous a disease and on that account satisfied that he acted wisely on submitting to the operation.

THE MEDICINAL PROPERTIES AND USES OF THE
WATERS OF THE BUFFALO LITHIA SPRINGS OF MECK-
LENBURG COUNTY, VIRGINIA.

By GOODRIDGE A. WILSON, M. D., Summerset, Granville Co., N. C.

The remedial power of these waters is now established beyond the reach of reasonable cavil. The traditional and abiding reputation given them by the jury of the vicinage, is fully vindicated by the more methodical trials of educated and scientific inquirers. Many Medical experts have borne testimony ; furnishing a body of experimental proof which it would be folly to gainsay ; proofs drawn from careful observations made in the sick chambers of homes, scattered through the breadth of the land, and without the well recognized adjuvants of travel, change of air and scene, and diet, and social life, and freedom from business cares.

These testimonies, concede and attest, curative powers over a wide range of pathological states, the very extent of this range giving to the candid objector his most rational excuse for the rejection of facts, as well established as any can be by human testimony.

On this ground, scepticism has been indulged of the remedial virtues of all mineral waters, and probably will continue as long as men will insist on estimating, gauging and subordinating the chemical combinations of nature's great laboratory—to the artificial products of the coarser chemistry of their shops.

However inclined to such abstract reasoning, a truer philosophy will guide to a safer decision (on this, as on some other subjects) when it heeds the voices constantly proclaiming : “Whereas, I was blind, now I see.”

An attempt to classify the properties of these waters, and enumerate the pathological states, to which they have shown adaptability—is the design of this paper—and these necessarily involve some consideration of the *modus operandi*. It is designed for the

professional reader, and within its limits can be but little else than suggestive.

And 1st the *Physiological* action of these waters.

Any HEALTHY person, capable of observing the functions of his body on their use, will note a marked exhilaration of spirits and exaltation of nerve force—as prompt as from use of a generous glass of wine—and most notably observed by those unaccustomed to the use of stimulants. There is also manifest increase in the force and frequency of the heart's action. In some, this exaltation of nerve force almost attains to a pathological state, being attended by cerebral pain and other nervous disquiets—but these latter seem to be promptly removed by the supervention of the 2d train of effects from these waters, viz : a notable increase in the secretions and excretions of all the glands of the body, and especially the great common emunctories—the skin and kidneys. And it is a PECULIARITY of these actions excited by these waters, that they all go on simultaneously—the activity of one, not entailing torpidity of the other, as is the case with the ordinary agents of our pharmacopœa, and notably, with the organs which seem vicariously to perform the functions of each other.

The 3d and last of the physiological actions of these waters consists in the increased demand and capacity for energetic alimentation, and whether this is due to specific tonic properties, or the antecedent actions already mentioned, need not now be considered. That these actions may be readily pressed to the development of pathological states may be readily inferred, from the common annoyance, and sometimes distress, from functional activity experienced by healthy, pleasure seeking visitors.

I have now enumerated only the prompt, sensible effects of the Buffalo Lithia Waters, viz : exaltation of nerve force, and stimulated circulation, with diaphoresis, diuresis, and purgation, and all these actions going on simultaneously. The professional reader will

see at once, that these are the means through which medical men in all ages, have combatted and overcome a wide circulation of diseases.

The ingestion and assimilation of external matters to its own structures, with the elimination of what has been rendered effete and hurtful, may be said to be the first conditions of animal life, and these vital functions are immediately reached by the actions above indicated.

The external cutaneous surface, with its internal prolongations to the cavities of all the hollow viscera with its vast glandular apparatus—these are the seats of these sensible actions. Let it be remembered that these same surfaces, are the avenues through which morbid causes, whether from alterations of temperature, or direct poisons gain access to the animal economy; also, that the resulting structural and functional changes in these surfaces, constitute the essence of the diseases we seek to combat.

It would be beyond the limits designed for this paper to elaborate these ideas. But enough has been said to be suggestive of practical indications, and to explain on the basis of an accepted medical philosophy—the efficiency of these waters in CHRONIC ENGORGEMENTS AND INFLAMMATIONS AND ATONIES—IN THE REMOVAL OF MORBID ACCUMULATIONS AND DEPOSITS—AND THE RESTORATION TO THEIR NORMAL PHYSIOLOGICAL TYPE, VITIATED AND SUPPRESSED SECRETIONS AND EXCRETIONS.

I have now only treated of the palpable, sensible effects of these waters. But every physician is daily in the habit of instituting what is called *alterative medication*, by the gradual introduction of minute doses of medicinal agents into the system, and thus producing the most benign results. The testimonials in favor of the alterative actions, of the Buffalo Lithia Waters are so full, that scepticism would argue greater mental weakness than credence. A large number of the astute medical observers from the frozen north to the

Gulf—such as Wood; of Philadelphia, and Howard and Byrd, of Baltimore, and Beale and Huston, of Virginia, and Jerman and Jones, of Carolina, and others of like attainments and capacity, furnish a body of experimental proof on this point, which, even if not sustained, by the positive results of the analytic chemist, would make it so much the worse for the chemistry.

But chemical analysis proves these waters to be rich in medicinal compounds. Their diuretic action secures efficient sewerage, thus relieving it of noxious products and quieting irritations of the urinary passages, but also, their alkaline compounds counteracts the acid diathesis so constantly present in *rheumatism and gout*, and by their chemical reactions secures in soluble form, what would otherwise be retained in the shape of insoluble and hurtful deposits.

I call attention to the exceptionally large quantity of the carbonate of potash, and desire to record the declaration that during forty years of acting professional life in a miasmatic region, I have derived more benefit in *hepatic* derangements, and malarial cachexies generally, from the gradual saturation of the system with this old fashioned “salts of tartar,” than from any other treatment, regarding its alterative action as both safer and surer than that of the mercurial preparations.

The tonic and stimulating action of these waters is as well attested as any other of its effects. Drs. McGuire, Huston and Jones, and others, describe this action as that of a “decided nerve tonic.” This action is too prompt to be accounted for by improved nutrition, or the presence of a chalybeate. But the analysis reveals the fact that phosphorus is amongst its constituent elements, the great generator of nerve power, and especial pabulum of nerve tissue. True, it is put down in the quantitative analysis, as only “traces,” but it should be remembered that this substance is so volatile as to be constantly changing form at ordinary temperatures,

and as a medicinal agent, it is used only in very minute dose—say from one-fortieth to one-twentieth of a grain—and, in these doses, it is “a powerful general stimulant with special tendency to the kidneys and genital organs,” producing decidedly aphrodisiacal effects—and such are the well recognized effects of these waters. With the possession of these “nerve tonic properties,” we readily account for their value in the great class of nervous diseases.

And so in *chronic-intermittents and remittent fevers*, the disorders and cachexies which follow in their train, having been relieved in the manner already explained—the nervous system (the first to receive the impingement of the malarial poison) is fortified against its assaults by this “nerve tonic,” whilst the work of a renovated nutrition is in steady progress.

It has never been intelligently claimed for these waters that they possessed any anti-periodic virtues in the sense in which Peruvian-bark is anti-periodic.

In the large class of what are called *Female Diseases*, perhaps it is desirable to be somewhat explicit.

Of course, these are limited to the ovaries, the uterus and their appendages; and, of course, no claim is set up for remedial powers in these waters over their *malignant* diseases and their structural changes.

But the functions of these organs are often interrupted by sympathy with other organs, or by faulty and deteriorated vitality in the general system; or alternations of temperature which declare their pathological state in the shape of *amenorrhæa, dysmenorrhæa, chlorosis*, or in passive and vitiated secretion. That these disorders should be often removed by an agent possessing the properties of these waters may be readily understood, especially when it is recollected that amongst these properties is that peculiar “nerve tonic” whose influence extends to the ovaries.

The *prophylactic* powers of the Buffalo Lithia Waters are very

valuable in some conditions—as in procrastinating *puberty*, especially in those predisposed to constitutional diseases, in warding off the direful sequelæ of the *exanthematous fevers*, by keeping up healthy action on the new and callow secreting surfaces, and in some of the most distressing and dangerous diseases of *pregnancy*, by elimination of their exciting causes from the system.

There is one pathological condition in which I am sure these waters are *contra-indicated*. I mean in tubercular phthisis, after softening has taken place and hectic supervened. In many of these cases I have seen the circulation hurried; the cough more distressing, and colliquative sweats and diarrhœa increased to the speedy exhaustion of the patient.

In conclusion; the writer would say that he has long regarded these waters as a valuable *agent of our materia medica*, and not a panacea of indiscriminate application or universal efficacy. The described physiological actions are what takes place in a *healthy person*. Many invalids resort to these springs too much diseased to be benefited, until by intelligent care, they are prepared to realize these effects.

PLACENTA PREVIA.

By T. D. HAIGH, M. D., Fayetteville, N. C.

Feeling assured that any suggestion will be acceptable, that may add an additional weapon in combatting a complication of labor so serious in its results to child and mother, and withal so taxing the nerve, and clear judgment of the physician, as placenta previa, I report the following case:

Mrs. ———, æt. 23, lenco-phlegmatic temperament, supposed to be near eight months advanced in pregnancy, (fourth child) without premonition, was seized with a sudden gush of blood from the vagina while attending to usual household duties on Sunday, Jan-

uary 6th. Under the use of tannin, opium, and rest, the hemorrhage ceased, until the following Tuesday night, when she again had a still more copious return of the flow, which again yielded to treatment (or more correctly speaking ceased as such flows usually cease with or without treatment). On Monday night, January 13th, the hemorrhage again returned so copiously that it became apparent longer delay in bringing on premature labor would jeopardize her life.

Having already diagnosed correctly a case of placenta previa, and having previously determined in case the tampon should be required, to use a solution of Monsel's salt (the sub-sulphate of iron) applied directly to the bleeding vessels, with Dr. McDuffie's consent (who I had requested to advise with me) I applied several folds of soft cloth saturated with the solution (20 grains to the ounce) in direct contact with the placenta, and then applied the tampon ; now 2 A. M.

The os was barely dilated sufficiently to allow the application, thick, and from the touch should judge she was not more than $7\frac{1}{2}$ months advanced. Observing now that she complained of periodical uneasiness or bearing down as she expressed it, we gave the fluid extract of ergot and this appearing inert, we substituted the wine with like want of success.

Waiting patiently (there having been no external evidence of hemorrhage since the application of the tampon) until 2 P. M. the next day, I removed the tampon hoping that by this time the os would have dilated. Examination revealed the os in a dilatable condition, the portion of the placenta presenting dry and rough, evidently the effect of the astringent application. It was detached anteriorly about $2\frac{1}{2}$ inches above the os, sufficiently to allow the index finger to pass.

We now attempted dilatation with Barnes' dilators, but were foiled in that, at each attempt to fill the bag it being thrust out by the uterine contractions. Fearing delay, as the hemorrhage now returned, I proceeded to dilate with the hand and gradually succeeding, I passed the hand anteriorly detaching the placenta sufficiently for that purpose. The child was lying transversely across the pelvis, spine arched upward, head to the right, face downwards.

Delivery was accomplished speedily and without difficulty, and

the placenta was immediatly removed, and the patient made comfortable, she was very pale and exsanguined, but still there was less loss of blood than was to have been apprehended and we were well satisfied with the result.

On examining the placenta, the points of application of the solution were well marked, the appearance as if shrivelled, and in striking contrast with the portion which became detached after delivery of the child.

The advantages of using the sub-sulphate of iron, over the simple tampon would seem to be not only in constringing the *already exposed vessels*, but also those which afterwards become free by the further detachment of the placenta under contractile efforts, and which are pressed down upon the saturated compress while in situ.

Since this case was under care, Dr. McDuffie informs me that he has seen it stated that Dr. Mears, of Indianapolis, recommends through the New York journals the use of the persulphate, the pernitrate or the perchloride of iron in these cases.

If this case serves to strengthen the suggestion—it will accomplish that much good, though at the time of using it I had never seen the remedy suggested, though its peculiar adaptability to all cases of extensive surface bleeding would readily suggest its use. The subsulphate (Monsel's salt) is said by the U. S. D., to be less caustic than any other preparation and less irritant in solution and more peculiarly adapted to hemorrhage from large surfaces.

Medical Botany.—The New York *Medical Record* (Feb. 22d) makes an argument for the restoration of medical botany to the college curriculum. It ought by all means be added. As the matter stands now the apothecaries and eclectics have monopolized this branch of science, and for the most part our most useful remedies are now reaching us through this round about course. By all means *lengthen the course*, and let our young men have as good instruction as drug clerks get.

Dr. A. C. Rankin reports a case of puerperal convulsions, attended by rupture of the uterus and recovery, in the *Medical Journal and Examiner*.

SELECTED PAPERS.

THE YELLOW FEVER AT HAVANA—ITS NATURE AND TREATMENT.

By CHARLES BELOT.

Those, who can avoid the centres of infection, rarely fall sick, at least if they commit no excess or imprudence. On board vessels, the sailors are more exposed than the officers, the latter more than the commander. So also in barracks, It appears, that in this disease, as I have also observed in cholera, dead bodies augment the noxious quality of the miasm. When a man dies aboard ship, or in a place, where individuals reside subject to the disease, they soon fall sick and exhibit very grave symptoms.

If the surrounding air is the vehicle of miasmatic substances, it is evident that all those who breathe the same air under circumstances of predisposition, and who absorb these miasms, are liable to contract the disease. Miasms being heavier than the air, infect especially the lower strata, where it follows, they can exist a long time before the respirable air becomes vitiated. In this case, the appearance of the disease is retarded. From numerous experiences, we have proved that the best conductors of miasms are wood and clothing, especially woollen clothing. A man, a sailor, can convey a deleterious miasmatic cause from one place to another without being himself affected. This cause will rest without effect, so long as it is not set free into the atmosphere by the hand of man or by a current of air. The period, during which the miasmatic cause remains innocuous, is commonly called the period of incubation. This is variable. At Havana, it is allowed from eight to twelve days. Merchant ships, arriving even in the midst of an epidemic, remain this lapse of time before having sickness; if sooner, it is because they have already undergone the miasmatic action before entering the port.

It is not rare to see vessels remain three or four months in port, take in their loads and arrive at destination without having had sickness during the voyage and yet communicate the disease to those who come aboard to discharge the cargo, and so set the miasm in motion.

Thus yellow fever propagates itself by the air, by absorption, by infection. But it will be said if this be true, all who are exposed to the deleterious miasm ought to be affected. Not so, because at the same time that this cause is acting, there must be a predisposition to receive the morbid influence. How often have we seen, for example, two persons placed in the same centre of infection, the one assailed and the other escape! If I may be permitted the comparison, miasms act on the body like seed upon the land; grains which sown in one soil do not germinate, are perfectly successful in another.

It happens, that individuals falling sick aboard ship go ashore to be nursed, and communicate the disease to one or two of those about them. The latter keep this germ in incubation four or five days, and often convey it to great distances, where they communicate it to others still.

We had the past year a case, which demonstrates the truth of that which I have advanced. An epidemic broke out on the *Anne-Marie*. The contagion ceased among the men of the crew, who did not retain even the communicative force, if I may so express it. None of them seem to carry with them the germ of the disease, as they did not communicate it to others, who went among them. Yet some persons visited the vessel, were contaminated, carried the disease aboard the *Chastan*, and died. This was direct infection by absorption at the epidemic focus.

Another fact. The seamen of the *Lorientais*, placed to leeward of the *Anne-Marie*, were infected by the deleterious air coming from that ship. Finally, a third fact proves the truth, I am exposing.

On the 12th of June, 1857, we had not a single case of yellow fever in the harbor. The weather was fine, and we had come to think, that the epidemic would not be serious. At this time arrives an English vessel, the three master, *Mary*, from St. Thomas. She had lost the captain and three men on the voyage. Upon her arrival at Havana, four men of the crew, seriously ill, were sent to the hospital, where two died. There was sent on board this ship, as a watch, a part of the crew of the *Hannibal*. Two of these men fell sick, and the others returned to their vessel, where they communicated the disease to the crew, which is sent to the hospital. Of

these, six sailors and the captain died. At this time there enters in distress into the port of Havana, the Swedish brig *Maria*, dispatched from Trinidad de Cuba for Europe. This vessel was at St. Thomas, at the same time with the English three-master, of which we have spoken. From this island, she went in ballast to Trinidad, where she was loaded with sugar. When four days out, the captain and three men fell sick. Two succumbed, and next day the captain and the other sick man died.

The commanders of the vessels anchored in the neighborhood, demanded the removal of the *Maria* and of the *Hannibal*. No attention was paid to their application. The disease gained a footing ashore, and produced one of the most deadly and most protracted epidemics ever known at Havana. It lasted during the whole winter of 1857-58. This fact proves at once, that yellow fever is contagious at least by infection or absorption, and that the air is the conductive medium of the miasmatic influence, which is capable of resting latent wanting only a favorable circumstance for development. In this, we have said, yellow fever has a remarkable resemblance to cholera. It is enough to have seen an epidemic of yellow fever to be convinced, that the disease is not propagated by contact. I have myself renewed the experiences of physicians at Martinique, and I have never seen men fall sick after having slept with fever patients, nor after using their clothing, provided they themselves resided in pure and healthy surroundings. On the contrary, I have rarely seen individuals escape the infection, when they breathed a contaminated atmosphere.

When a vessel has lost one or two sailors aboard, the air is so surcharged with miasm, that the disease soon assumes an excessively grave character. It is this which has caused some to call yellow fever nautical typhus. The proportion of mortality then increases in a frightful manner, although the sick may be sent ashore. In 1852, I had charge of the French vessel *Ceres*, from Dieppe. This vessel came from a whaling voyage, and had been sent to Havana with a load of coal. The day after his arrival, the captain was seized with a sudden attack, and died in twenty-four hours. The second officer and a sailor succumbed, and died in three days. The rest of the crew was attacked and sent to hospital, where all died to the number of fourteen. Men were

recruited to form a crew for the *Ceres*, but all including the new captain died save one. The vessel was fumigated, loaded with sugar, and furnished with a mixed crew, such as could be picked up. M. Miot, then a midshipman on the *Ardent*, brought the *Ceres* into France. He had the care of sick men during almost the whole voyage.

This example, and a thousand others, which present themselves every year, prove the truth of what I have advanced that the more the focus of infection is confined, the more deleterious the miasm.

I have already said; that wood is a good conductor. It retains this property a long time. Hence comes the melancholy renown some vessels have acquired in epidemics of yellow fever. It is these which always give the saddest result.

Yellow fever is endemic at Havana. We always have the germ; even in the heart of winter.

This terrible malady attacks only strangers coming from a more temperate climate. It does not attack the African negro, and if some cases of Africans having black vomit are spoken of, I do not think they had yellow fever, black vomit alone not constituting this disease, since we have seen, that intermittent pernicious and grave bilious fevers may present this symptom. When it attacks negroes, born in temperate climates, it does not affect them so severely as those coming from American ships, and born in New York and Boston. Creoles are also liable to the disease, but it is when they come from the interior, and arrive in the midst of the epidemic.

We have said that yellow fever is not contracted a second time. This is generally admitted, but demands some explanation.

I have never seen an individual, who had had the disease gravely, contract it anew. Yet I have had the care of many seamen, who assured me that they had the disease before, and felt again the symptoms of which they complained anew. But there was nothing to prove that these subjects had not confounded a mild vomito with a simple bilious fever.

This, however, is positive, that I have never in my long career seen veritable yellow fever attack the same person twice.

Recapitulating, we think we have proven that yellow fever is a disease *totius substantiæ*, produced by miasmatic poison *sui generis*, of typhoid nature, contagious by infection, and presenting, as a constant result, alteration of the blood.

This definition should serve as a basis for the treatment it requires.

Yellow fever being a miasmatic poison, the antidote of which we know not, the only rational medical treatment is that of the symptoms. The febrile organism is nothing more than the energetic reaction of nature to eliminate this poison, the effects of which, may be compared to those of the venom of the *crotalus horridus*. So there should not be such general blood-letting, as would enfeeble the patient, but there must not be any neglect in combatting local congestions.

Experience has proved to me, that local blood-letting was indispensable, and that cuppings were preferable to leeches. Eight cups on the nape of the neck, ten on the loins, and eight on the stomach generally suffice to alleviate the symptoms, and if four hours after the first application there is not sensible amelioration, let it be repeated.

But it is of more value to recur to these local applications than to general bleeding, because this always weakens more, and has an indifferent influence on the local symptoms. I prefer cups to leeches, because they act on a larger surface, while their action is more prompt; and it is easier for the physician to control the quantity of blood to be taken, and to apply them, especially with the scarifiers now used.

The pains in the head and loins cause the most suffering in the first period, and it is against those symptoms, that action should be prompt and energetic. Let there be associated with cuppings, strong mustard foot-baths every two hours, and sinapisms applied to the lower extremities; at first to the thighs, then to the calves of the legs, as long as they can be endured by the patient.

One very good auxiliary, which should never be neglected in resisting local congestion, and to diminish the plasticity of the blood, is tincture of aconite. This remedy given in doses of six drops in twelve ounces of water, administered by spoonfuls every hour, has a truly magical power. The pulse lowers, its frequency diminishes, as the heat of the skin and sweats are exhibited. It should never be neglected in the first or congestive period.

If the disease has commenced with vomiting, if the tongue is

charged with mucous deposits, let an emetic be given, composed of an infusion of thirty-six grains of ipecac in four ounces of warm water. When this commences to produce its effect, the vomiting will be assisted with warm water, and continued until the ejections are clear as water. The object of this vomiting is not only to dis-embarrass the stomach of food, but to bring on a diaphoresis, almost always favorable.

There need be no alarm, when immediately after the vomiting, the patient complains of headache. This caused by the efforts of vomiting. It is always well to give one or two cups of infusion of tilia to calm the nervous excitement produced by the vomiting, and at the same time to promote diaphoresis.

I prefer ipecac to tartar emetic, recommended by many medical men, because I have observed that the last remedy, in the same dose, does not act in the same manner on all individuals, and has a special irritating effect on the mucous membrane of the stomach. When an emetic is indicated, it should be administered before cupping.

If the tongue is not charged with mucous deposits, if the patient complains of great pain in the epigastric region, vomiting must be avoided; as its consequences would be grave. In this case, which my father called acute gastritis, where the pancreas and duodenum appear chiefly involved, the treatment should be local, with cuppings, with emollient cataplasms upon the abdomen, with embrocations of oil and belladonna, with light purgatives if there is constipation, with injections, with hip-baths of mucilaginous decoctions, but especially with cupping repeated over the abdomen.

About four hours after the vomiting, the patient will have less fever, the pulse will be less frequent and less strong, the skin will be moist, or there will be general transpiration. It is necessary to take advantage of this moment, to administer a purgative of castor oil, or of nitrated sulphate of magnesia. If this remedy fails to act after two or three hours, its actions should be promoted by injections of warm sea water, or of sweetened water and olive oil.

When the disease commences with diarrhœa, it is almost always consequent upon indigestion, and emesis is still indicated.

During this period, the patient should have warm drinks to aid transpiration as much as possible. He should be comfortably covered, and his chamber well-aired.

It is not unfrequent even in the midst of a violent epidemic, in full summer, to see the more alarming symptoms of yellow fever cease, as by a miracle, on the third day, under this treatment. There are cases, commonly called fever of acclimation, but they are rare. The gums, the tongue, and above all the urine, which offers an essential symptom, the presence of albumen, and furnishes the surest semeiological sign, should be examined with care.

When despite this treatment, the disease has not been checked, the symptoms of the second period are presented. Then all loss of blood becomes contra-indicated. Even purgatives should be avoided, because they irritate the already suffering intestinal mucous membranes. From this time, the attention and sagacity of the physician should not sleep; the least mistake would be fatal, because the alterations succeed each other with frightful rapidity.

The headaches should be resisted with flying blisters on the nape of the neck, with compresses of brandy with camphor and belladonna on the forehead. To soothe the oppression of the stomach, I apply compresses of brandy with camphor and belladonna, and give internally tincture of nux vomica, but in very small doses; and its effects are marvellous. The stomach should be relieved by means of injections. When, despite the compresses, of which I have spoken, the pain in the stomach persists or is aggravated, a flying blister is applied at this point. If nausea occurs, bicarbonate of soda alternated with nux vomica is the most useful remedy. If the disease advances and vomitings occur, they must be treated according to their character. If they are white, foamy, acid, holding in suspension flakes of mucous membrane, black vomit is not far off. It is often arrested by bicarbonate of soda in small doses repeated every half hour, alternated with carbonate of magnesia. If the vomitings are bilious, nux vomica and arsenical solution will be employed in preference, and will be continued, if black vomit occurs. Nux vomica acts upon the nerves of the stomach, diminishes excitement, and quiets the patient. As for arsenic, while it may be difficult to appreciate its action in theory, its happy influence in this case is as certain as that of sulphate of quinine in intermittent affections. According to the condition of the

stomach and of the patient, the use of a little fresh water slightly sugared, may be allowed, and thirst may be appeased, with small pieces of ice.

Sometimes hemorrhages occur without black vomit. They constitute of themselves a grave condition. Limited hemorrhages, for example, buccal and nasal hemorrhages, are combatted with tonic applications, ice and astringents; but the important point is to combat their cause. This cause is always alteration of the blood. At this step in the malady is the important point. In the acute continued type, it is rarely that hemorrhages and alterations of the blood can be successfully resisted, the rapid progress of the disease allowing no time, and nothing averting a fatal termination.

When hemorrhages have not taken place, if the symptoms invade the brain, cold water to the head, blisters to the nape of the neck, and calomel internally are remedies, to which recourse should be had. But I repeat, that this will be frequently useless, because the disease progresses with frightful rapidity. Let us hasten to add, that the acute type, so formidable, presents itself but rarely in the course of an epidemic.

If the continued type offers so few chances to the physician, it is not so in the remittent and intermittent types. In the latter, the succession of symptoms operating with more slowness. He has time for action. We have said that the disease begins with or without chills. This is a very important therapeutic indication. The first symptom (the chill) coming on perhaps after a meal, perhaps in the morning between two and three o'clock, an emetic, administered at once, disembarrasses the stomach of ingests, and saburral deposits, and determines a favorable transpiration. After the emetic, the patient should be allowed repose and sudorific drinks. If the symptoms call for an application of cupping to the nape of the neck, to the loins, on the abdomen, according to the indications of local congestion, it is rarely that twelve hours pass, without the patient showing marked relief. If the congestive symptoms do not yield to the first cupping, they will be overcome on the second application, and by completing the effect of the emetic, with a purgative oil or nitrate salt. In most instances, after this treatment, the remission will be found to come, and this is the most important moment for the physician. This remission often occurs after the

first twenty-four hours—in other instances, it is delayed two or three days. When, after the emetic and purgative, a general relaxation is observed, but insufficient to bring on transpiration, use should be made of diaphoretics, and preferably of Dover's powder, taken every hour in doses of a grain, until sweat is presented. There may be given also liquid acetate of ammonia or spirit of mindererus, in doses of ten drops in six spoonfuls of infusion of tilia every hour. After these remedies, the remission will not be delayed.

[To be continued.]

“THE DISCOVERY OF THE SOUL.”

We make the following extracts from a letter by the Berlin correspondent of the *Nation* on Popular Science in Germany.

“Another still more amusing dreamery of popular science may be seen in several articles published within the last few weeks by Prof. Jäger, of Stuttgart, and entitled “The Discovery of the Soul.” The soul according to this naturalist, is simply (*honi soit qui mal y pense*) a smell, and consists of a ‘chemical composition of albumen’ called nervina. Liver, kidneys, muscle, brain, each emit a peculiar odor which the writer's olfactory nerves readily distinguish. Each of these organs has thus its own soul, and, collectively, they constitute an aura which may rise above the threshold of consciousness, and even become offensive, as in animals and in negroes, but which more commonly is a very efficient and unconscious agent mediating the instructive attractions and antipathies of temperaments and sexes. Thus small children recognize their parents. Not only hunger but joy, love, hate, and pain emit their own peculiar odors. In people of sanguine temperament the ‘soul-stuff’ is most loosely bound with albumen, in choleric people more firmly. Moses discovered the scientific fact that there is a soul in the blood; Oken that the soul, like all else in the animal body, was in the cell; but Prof. Jäger claims priority in showing indubitably, ‘by a long series of scientific observations,’ just *what* the soul is.”

More than a century ago the old negro song had embodied the essence of this philosophy in the couplet:

“De Lord he loves good niggers well
He often tells them by their smell.”

CORRESPONDENCE.

OUR PARIS LETTER.

Sketch of the Life and Works of Professor Tardieu—The Plague—Dr. Planat, of Nice, on Treatment of Strangulated Hernia with Ergot—Dr. Pavy on the Glycogenic Function of the Liver—The Thermo-cautery the rage in Paris—W. R. Warner's Exhibition at the Paris Exposition.

11 RUE NEUVE DES CAPUCINES.

PARIS, February 20th, 1879.

To the Editors of the North Carolina Medical Journal:

GENTLEMEN :—Professor Auguste Ambroise Tardieu, whose death was chronicled in my last letter, was born in Paris, on the 10th day of March, 1818. His father was a geographical engraver, of moderate means, who by faithful toil and many sacrifices, managed to give the son a collegiate education. At the age of twenty years the young man matriculated at the School of Medicine, and, after having been the Laureate, both of the Faculty and of the Hospitals, graduated in the spring of 1843, as a Doctor of Medicine.

His thesis, which was entitled "*Chronic Glanders and Farcy*," attracted much attention, and is still regarded as a standard work on the subject of which it treats, especially as regards the last named affection, of which he had made forty-eight practical observations between the years 1837 and 1843.

Having been made chief of the clinic at La Charité, he soon afterwards competed for an assistant professorship in the medical school, which he succeeded in obtaining although opposed by more than twenty of the most promising of the young medical men of France. This result was achieved, not alone by the thoroughness and accuracy of Tardieu's knowledge of his profession, but by his wonderful facility and fluency of language—that natural gift of eloquence which distinguished him throughout his career. Two years later he was elected Physician to the Central Bureau of Hospitals, and assigned to the *Hopital Lariboisière*, which was then known as *Hopital Louis Philippe*. In the year 1848, while Assistant Professor, he was called upon to replace temporarily, Professor

Duméril, in the chair of Pathology ; and as France was then suffering from its second visitation of cholera, he determined to devote himself to that subject. His lectures in this connection were perfect models of their kind, and added greatly to the reputation of the rising young professor.

Subsequently, having been made a member of the Committee of Public Health, and Medico-Legal Expert of the Tribunals, he applied himself specially to these two branches, and competed with Béclard, Bouchardat, Guérard, and Sanson for the chair of Hygiene in the Medical school of Paris. Although Bouchardat was the successful candidate, the essay presented by him in the contest, on "Sewers and Cemeteries" is the most able and exhaustive in the French language on the subject of which it treats. In 1859 he was elected a member of the Academy of Medicine ; two years afterwards he was called upon to report upon the medicinal qualities of the mineral waters of France,—a task which he performed with much fidelity and success ; and in 1867 he had the honor of presiding over the General Medical Association of France.

When Professor Adelon retired from the chair of Medical Jurisprudence, Tardieu was immediately chosen to fill it ; and in the same year he received an appointment on the Medical Staff of the Emperor as consulting physician. In 1864, he was named Dean of the Faculty, a nomination which was at first well received, but subsequently became very unpopular, for certain political reasons which it is unnecessary to discuss in this connection. From that time Tardieu lost his influence and prestige, and the opening of the subsequent session proving the most stormy and exciting ever witnessed in Paris, he was compelled to resign his position as Dean.

After his report in the case of Pierre Bonaparte in 1870, the students positively and persistently refused to listen to him.

His admirable private character, his great professional learning, and his wonderful eloquence as a lecturer—were all forgotten in the wild storm of political hatred which his over-weening devotion to the reigning dynasty had inspired, and in the midst of his brilliant career, and with his task as a teacher only just begun, he found himself constrained to leave his lecture room, never to enter it again. His connection with the Faculty from that unfortunate time until his death, was that of an examiner, and nothing more.

There can be no doubt, however, of the fact, that as a teacher, as a general practitioner, and especially as a Medical Jurist; he was one of the ablest men of his times, and that in his loss France has sustained an affliction which she fully appreciates, and the whole world of science duly measures.

The great topic of discussion in all circles here is the *Plague* which has appeared in Russia. So many contradictory statements have been made in regard to it that there is the greatest possible difficulty in arriving at the real facts of the case—in ascertaining the precise nature of the disease prevailing in the affected districts, in determining its origin and march, and in deciding upon the extent and tendencies of the epidemic. The most authentic accounts seem to be embodied in the report which the German Imperial Sanitary Department has just published in regard to the disease prevailing in Astrakan, and from which I gather the following interesting and seemingly reliable details:

“The particular descriptions of the disease, made by the Russian military surgeons who have been on the spot, scarcely admit a doubt of the fact that there has occurred a very limited, but at the same time in a degree a very intense, outbreak of the plague, the so-called Indian (or Asiatic) plague, which is marked by a prevalent complication with an inflammatory affection of the lungs and by an extraordinarily acute course, mostly ending very rapidly in death. It is probably, therefore, the same form of disease which in the 14th century, under the name of the “Black Death” devastated Germany. The first authentic outbreak of the disease on its present theatre of action happened on the 19th of November, at Wetlianka, a locality near the right bank of the Volga, 28 German (or about 130 English) miles from Astrakhan, on high, moderately inclining, and not marshy ground—a village, the 1700 inhabitants of which are chiefly supported by fishing, and by their trade in dried and salt fish. What particular local conditions occasioned the outbreak precisely in this spot is as yet unknown. Likewise the statement that troops returning from the war, buried there a number of their comrades who had died of typhus, or that, according to another version, they had buried there in a superficial manner a number of horses which had died of glanders, and that it was in the neighborhood of this spot that the first outbreak of the

plague was observed, is a statement which still requires confirmation. On the other hand, there are not wanting data pointing with probability to the fact that in this case we have to deal, not with an independent primary origin of the disease, but with the last link in a chain, hitherto unobserved, of less important outbreaks whose first source is to be sought in one of the chief cradles of this disease, in the northwestern corner of the Persian Empire. There, in the highlands of Aderbeidshan, which extend from Mount Ararat to a point south of the Shari lake, and on the north borders immediately on Russian Caucasia, the plague, after apparently disappearing for 28 years, has shown itself since the year 1863 in repeated outbreaks, some weaker and some stronger, which have come more or less into public notice, as in 1863-1864, 1870-1871, 1873-1874, and in 1876-1877, outbreaks which were connected with those in the Lower Euphrates Valley, about Bagdad in 1867-1868, 1873-1874, and in 1877.

"In February, 1877, the disease, travelling eastwards, reached the province of Ghilan on the Caspian sea, the chief town of which, Rescht, suffered a severe visitation. Between that town and the government of Astrakhan, there is considerable traffic over the Caspian, while with the inhabitants of Eastern Caucasia, who are of the same race, the inhabitants of Rescht are in constant communication, and carry on among other things a not inconsiderable smuggling trade in tea and silk. In such circumstances it is not wonderful if, as is credibly reported from several quarters, as early as May, 1877, and repeatedly since then at various spots in the government of Astrakhan, cases of sickness have been observed, the symptoms of which present great similarity to those observed in the present more violent outbreak at Wetlianka, though the course of the disease in the former cases was more favorable. In the case of a sporadic disease of this kind, the cause of the infection was attributed by the persons attacked to coming in contact with skins or hides from Persia.

"At Wetlianka the great outbreak was preceded by a series of less important cases of sickness. With the dry cold of November, the latter disappeared; but at the end of November and the beginning of December, the number of cases of sickness suddenly increased, and at the same time the violence of the disease rose to an extraor-

dinary and frightful degree. Almost all the patients—whose number is stated at about 300—succumbed after a brief interval, and the greater part of the surviving population fled to places in the neighborhood, thus carrying the germs of the disease abroad. Soon violent cases appeared in Nikolskoje, Udatschnoje, Michailowsk, and Staritzkoje; and when, at the beginning of January, a military cordon was drawn round the entire district affected, there were not less than nineteen places which had to be included—viz: on the right bank of the Volga, Staritzkoje, Kirda, Wladimirowska, Jenolajewsk, Ropanowskaja, Wetlianka, Gratschowskaja, and Tschernyijar; and on the left bank of the Volga, Udatschnaja, Michailowsk, Sasy-Ralskoje, Tambowka, and Selitrenoje. In order to secure Zarizyn, the terminus of the Russian railway system, from infection, a cordon was also drawn around it, beginning at Sredne-Pogkomnoje, on the left bank of the Volga, and passing through Werchne and Sredne-Achtribinskoje, over the Volga, near the flourishing German colony of Sarepta, and finishing at Ostradnoje. According to the latest reports, this cordon is carried round at the northwest, so that Zarizyn is shut out from all communication with the world except that by the railway.

“ Since December 24th, the epidemic has abated in violence. Among the places enclosed in the cordon first mentioned, the only one in which fresh cases of sickness had been observed was Selitrenoje, on the southeastern extremity of the infected district. Since January 28th, however, several cases have occurred in Renselitzeja, situated outside the cordon, southeast of Selitrenoje. There, too, the authorities at once carried out the requisite measures for disinfection and isolation. It is announced that the authorities intend to destroy by fire all the houses visited by the epidemic. In the government of Saratoff, the authorities of which have established a cordon of isolation against the government of Astrakhan, no case of plague-sickness has yet been ascertained to have occurred, nor has any case been observed in any of the other Russian governments.”

Professor Virchow, of Berlin, has delivered an interesting lecture on the plague before the Medical Society there. He stated that as yet, no experience had been acquired relative to the treatment of the epidemic by modern scientific means and that the

results obtained by the old system were contradictory. "The Oriental pest," he said, "was raging at Astrakhan, and it must be distinguished from that of India, the characteristics of which have been described by Professor Hirsch. This latter disease is of two kinds: the "plague pali," which prevails in the western part of India and is epidemic, and that of the Himalayas which is also epidemic, but only rages in certain isolated places, from which it does not spread. The Oriental plague comes from Syria and is propagated in Mesopotamia, Persia, and on the banks of the Caspian sea. The precautionary measures taken by the German government are admirable and very extensive, but it is difficult for a large expanse of country to be placed in thorough quarantine. The Russian army which is returning to its home ought to be subjected to medical inspection; but during the last ten years the Russian doctors have often mistaken the plague for the spotted typhus. The epidemic now raging is not worse than cholera, but no doubt can exist as to its being contagious, and as the causes of that infectious character are not well known, a difficulty exists in indicating the objects, the importation of which should be prohibited. The treatment to be adopted may vary, but the patient ought to be isolated immediately and placed under the most favorable conditions possible. As for disinfection of clothes, bedding, etc., the most rational mode is unquestionably the application of dry heat as practiced in the German hospitals and barracks.

All the governments of Europe have taken the most decided measures to prevent the march of the disease, and there seems scarcely a probability of its breaking through the sanitary cordon by which it is now surrounded.

Doctor Planat, of Nice, reports the successful treatment of two cases of strangulated hernia with *ergot*. The first patient was a man aged fifty, and the strangulation had existed for several hours. Ergot was applied both externally and internally; and at the end of five hours, it was found that the vomiting had ceased, while, after the lapse of twelve hours, the hernia was spontaneously reduced. The second case was that of a man aged twenty-eight years, who had suffered for several hours with a hernia which resisted all the ordinary means of reduction. Ergotine was then tried, as in the previous case, as a last resort and with the very

best effect. Spontaneous reduction speedily took place, and the life of the patient was saved. Why the remedy was not introduced hypodermically, does not appear. Surely, if ergot possesses any value in this connection, the potency and celerity of its action would be increased by this mode of employment.

À propos of hernia, you must pardon me for saying, that in my long and varied experience I have never performed herniotomy, but in a single instance, having succeeded invariably—except in the one case—in reducing the tumor by *taxis*, and without detriment to the patient. This success is due exclusively to the fact that, in emergencies, I do not hesitate to employ more force in manipulation than most other surgeons deem advisable, and that I approach each case with the firm conviction that reduction is a possibility if the effort to accomplish it be made early enough and is persisted in.

The Glycogenic function of the liver as taught by Claude Bernard has just been very vigorously attacked by Dr. Pavy, of London. He denies that this organ is endowed with the power of forming sugar, independently of the starch and sugar taken into the economy, and of supplying it to the circulation in order that it may be turned off in the peripheral capillaries. On the other hand, he maintains that instead of being a sugar-making it is a sugar-consuming organ, and that during life only a very insignificant amount of sugar enters the blood from the liver. Dr. Pavy bases these conclusions on two important facts, viz. : that if the liver is placed at the moment of death in a condition to prevent the post-mortem elaboration of sugar, it is found really to contain only a small trace of that substance instead of the decided amount claimed for it by Bernard : and that when proper precautions are taken in making the estimate, the difference in the amount of sugar in venous and arterial blood is very small, the average amount per 1000 parts of blood, deduced from eleven observations, being 0.941 gramme for arterial blood and 0.938 gramme for venous blood. He has also shown that corresponding with this small quantity of sugar in the blood there is also a certain amount present in the urine, and that the amount eliminated in health is therefore expressive of the amount which actually enters the circulation. These views cannot fail to produce a profound sensation here for the opinions of Bernard have been universally adopted by his countrymen, since they

were originally promulgated with the seeming exactitude of a demonstration.

The Thermo-Cautery is now the rage in Paris. All kinds of operation are being attempted with it, and the *knife* is ignored to an extent that would scarcely be credited in America. Only recently I met in consultation a leading surgeon, who against my urgent remonstrance, attempted to open a large carbuncle situated in the posterior cervical region, with this instrument. Having made two fearful looking wounds, he was compelled to suspend his work without having reached the *foyer* of purulent matter; and, as the sides of these wounds remained glazed and seared, no pus could escape through them, and the patient was left in a far worse condition than he had been originally. After the lapse of three days, when the carbuncle had extended its boundaries in every direction and the peril to the sufferer had increased immeasurably, the surgeon was compelled to resort to the bistoury, with the result of promptly securing the discharge of a large quantity of offensive matter. Dr. Dubrenel, of Montpellier, reported to a recent meeting of the Surgical Society of Paris, four cases of amputation performed with this instrument—only one of which, however, had proved successful; and Professor Verneuil, declared in discussing them, that when an absolute necessity presented itself for the prevention of the loss of blood, he regarded the use of the thermo-cautery as justifiable. I am a little surprised that none of his colleagues reminded him of the utter failure which had attended the “Method of Maisonneuve” or called his attention to the fact that in the very cases where the conservation of blood is so important a desideratum, the advantages accruing in that regard from the use of the cautery, are more than compensated for by the dangers which present themselves on the other hand from purulent absorption. That the thermo-cautery is a valuable addition to the resources of modern surgery cannot be questioned, but surely that circumstance does not justify the attempt to push it beyond its appropriate rôle or to make it a “hobby” upon which to ride to notoriety at the expense of suffering humanity.

I cannot conclude this letter without saying a word in regard to a medicine which has recently been introduced into France by our enterprising countrymen, Messrs. W. R. Warner & Co., of Phila-

delphia. Among other specimens of their exhibit at the recent Exposition, their agent in Paris very kindly sent me several bottles of *Ingluvin*—a powder prepared from the gizzard of the chicken,—with the request that I would give it a fair trial in the treatment of gastric irregularity and disturbance. I am pleased to be able to chronicle the fact, that, in three cases of pronounced atonic dyspepsia and in one case of chronic indigestion, it has acted like a charm—promptly relieving all disagreeable symptoms and restoring the stomach to its proper functions. My patients, who had previously tried without benefit all ordinary forms of pepsine, bismuth, cerium, nux vomica, &c., &c., are delighted with this new remedy and assure me that they experienced benefit from the first dose. Hereafter I shall prescribe it liberally and with great confidence in its therapeutic value.

Assuring you of my abiding interest in the success of the JOURNAL.

Very truly and respectfully yours,

EDWARD WARREN, (Bey) M. D., C. M.

OUR NEW YORK LETTER.

Summary: Academy of Medicine: Dr. Dalton's Method of Mounting Specimens for Temporary Preservation; Dr. Noyes' Paper on "Diseases of the Eye in General Practice," and the Discussion Thereon: Conjunctivitis; Keratitis; Iritis; Glaucoma; Atropia Eserine; Dr. Pomeroy on Relative Accommodation. College Commencements—Defects in Methods of Medical Study, and some Suggestions Looking to their Improvement.

NEW YORK, March 12th, 1879.

Dr. John C. Dalton, the eminent physiologist, reported to the Academy of Medicine, at its last session, a new method of mounting sections of the human body, by which they might be preserved for several days, without losing their natural form or color, so as to admit of their being examined at leisure, or used for purposes of

demonstration. The sections, which may be made of any desired size or thickness, are embedded, *à la boned turkey*, in warm fluid gelatine, and encased between glass plates. Dr. Dalton exhibited, and passed around for inspection, transverse sections of a human brain thus mounted, in which the natural features of color, etc., were perfect. There was no evidence of shrinking or other change; the relations of the gray to the white matter were as clear as in perfectly fresh specimens; and the various ganglia, convolutions and sulci were shown as satisfactorily, as immediately after a dissection. Specimens of other portions of the body, whether normal or abnormal, can thus be preserved, and if carefully mounted the package can be handled without fear of injury, and even transported for long distances for examination by experts. The report was regarded as a highly valuable one, and Dr. Dalton received for it a vote of thanks from the Academy.

At the same session, Dr. H. B. Noyes read a paper on "Diseases of the Eye in General Practice." The subject was ably and instructively handled, as was to be expected from one of the writer's well known ability; but I doubt whether any one of the general practitioners present, after hearing the paper, felt that they were better oculists than before. Unless the general practitioner gives himself the trouble to master the whole subject of ophthalmology, the best lesson that he can learn is that it is *always* safer to confide the treatment of eye trouble to the specialist. There are many symptoms, apparently indicative of nerve troubles, which often subject the unfortunate sufferer to a most vigorous kind of medical treatment, the pathogeny of which lies in some instantly remediable error of refraction. And so simple cases, or what appear to be simple cases, of conjunctivitis, are frequently treated with stimulating or astringent lotions, when the trouble exists in some other tissue of the eye to which such treatment may be positively pernicious. Inflammations of the cornea, or foreign bodies in the cornea, and certain forms of iritis may so closely simulate conjunctivitis as to be mistaken for it; but they will get worse under the treatment which would cure a conjunctivitis. The cardinal rule is to make an accurate differential diagnosis, and then for frank conjunctivitis use astringents, and for iris and cornea atropia, which is their medicine par excellence. In doubtful cases, use atropia

and thorough cleansing, and your conjunctivitis will get well ; and if there is cornéitis or iritis these will have received the medication required for them.

In corneitis the indication is to prevent extension of the inflammation, and opacities of the cornea. If the epithelium is abraded, or if there is an ulcer, avoid acetate of lead. It is better never to use lead lotions in the eye, on account of the danger of their leaving permanent white spots which may seriously affect vision. Paracentesis at the corneal margin is often useful in diminishing the pressure upon the cornea from behind ; and the cornea is very tolerant of it. Atropia is thought to be an anodyne to the corneal nerves, but it is said to produce increased tension in the aqueous chamber, and may with advantage be at times exchanged for eserine which has an opposite effect in this respect. I am able to adduce from my private case-book, considerable support for this view, as I find recorded two instances in which the prolapse of Decemet's membrane, which had continued under the use of atropia, disappeared promptly when a solution of eserine was instilled ; and in several there was a relief from pain, which the atropia had failed to afford.

In iritis the effect of atropia (1 to 4 grs. to $\frac{3}{4}$ i) is to dilate the pupil, and draw the iris away from the lens, thus preventing or breaking up adhesions between it and the lens, which constitute the great danger, both immediate and remote, in iritis. Dr. Noyes recommends and uses in purulent conjunctivitis, and in the ophthalmia neonatorum, solutions of nitrate of silver, sometimes as strong as ten grains to the ounce, the lids being everted for its application, and the excess of the agent neutralized by a solution of common salt. *Constant* cleansing, cold compresses, and, in some cases, when there is much swelling, and the lid presses upon the eye ball, a canthotomy, constitute the line of treatment. A canthotomy consists in the prolongation of the palpebral slit outwards. It is very easily performed, and is rendered much more effective if Dr. Agnew's supplement to it—the tenotomy of the so-called external canthal ligament—is done at the same time. The method of dividing this ligament is simple: after having made the canthotomy proper, seize the upper lid between the thumb and forefinger of the left hand, and by slight traction upwards and inwards it will be

found that a small cord holds the tarsal cartilage down to the outer angle of the orbit (this can be felt in one's own eye), and it can easily be caught in the "bite" of the scissors and snipped. Immediately the upper lid is released and presses no longer upon the globe. This is a decided improvement and renders a canthotomy in trachoma or pannus far more beneficial. Dr. Knapp does not favor the use of nitrate of silver, or only uses weak solutions (never stronger than three grains to the ounce), and avoids canthotomy. My own experience leads me to hold with Dr. Noyes in both of these particulars. As indicated by Noyes, and very forcibly also by Dr. Webster, one very important point for the general practitioner is to be able to recognize glaucoma, as this disease tends speedily to extinguish vision, unless it is promptly treated, when it may be one of the most manageable of the grave disorders. Its main features are an increased tension in the eye ball, severe pain in and around the orbit, and subjective photopsias (flashes of light and prismatic colors, especially around a candle flame), and rapidly (in a few moments or hours) fading vision. Iridectomy is the great and successful remedy, but the practitioner, if he mistrusts his skill for this, should use eserine (gr. i. to 3 i.) both to gain time, and because cures from its use have been reported. A drop or two of such a solution should be instilled every hour. It is supposed to act beneficially by restoring the equilibrium between secretion and absorption or transudation from within the eye ball, and thus relieves tension. In the discussion of Dr. Noyes' paper, Dr. Pomeroy, an accomplished ophthalmoscopist, made an interesting statement of his power to suspend his accommodation at will—and even advised that those, especially young people, who were able to do likewise should make use of convex glasses (1-16th) for reading, if they ever suffer from asthenopic symptoms. Now let us see what this implies. Dr. P., like every one else, in making ophthalmoscopic examinations by the direct method, looks at the image as if it were at a distance; i. e., his visual axes remain parallel and his lens accommodated for ∞ .

This involves no disturbance of the coördination between convergence and accommodation. The only effort required is to look with one eye, and to disregard the image of any object which happens to be in the line of vision of the other eye.

Optically speaking, the *observed* eye is accommodated for the *observing* one, and if it is not, the observer does not see clearly, unless he calls to his aid the proper lens from the series which now constitute a part of every ophthalmoscope, or himself accommodated to the requisite extent.

It is an accomplishment gained by long practice, which enables Dr. P. to focus his eyes for a remote point where he converges for the twelve or fourteen inches, and constitutes a very unusual instance of a great range in the so-called negative part of the relative accommodation. I think, however, it is hardly more than an optical trick, so to speak, and is not to be made useful for reading purposes by asthenopes, as Dr. P. recommends.

There is little general medical news with which to pad out my letter. The three great colleges have held their commencements, and turned out nearly 500 new doctors into the already overfilled ranks of the profession. Whither they go can no more be said of them than of the wind whither it goeth; but they disappear like the rain drops which are swallowed up in the broad bosom of the ocean. The addresses to the graduating class were unusually good—particularly the one to the University students, delivered by Rev. Dr. Crosby.

The students being gone, the professors unbend from their professional gravity, jingle the proceeds in their professional pockets, smile their professorial smiles at each other, (as Dr. Johnson said all M. D.'s do when they meet), eat the usual alumni dinner, and discuss over their libations the best method for catching the little fishes of the next winter.

The chairs in the several colleges are filled by able men, who discharge their duties conscientiously, and even with enthusiasm, and probably understand well how to impart the greatest amount of knowledge in the shortest possible time. I cannot say how nearly the examinations for the degree fulfil their purpose of disclosing whether the postulant is really qualified to practice medicine. But I am pleased to note an advance in this respect in at least one of the colleges, which this year submitted a series of questions to be answered in writing, and which were quite well adapted to test the qualifications of the candidates. With all of the enormous clinical advantages in this great city, it seems to me that they can be availed of by students to a limited extent only.

Although, in the annual circulars of the colleges, there is a meretricious parade of the many hospitals, with their thousands of beds, yet practically the hospital clinics are limited to Bellevue and Charity. These are, it is true, both very large but of the 500 second or third year students only a very small number can have access to the wards, and follow cases of disease to the end: and students are seldom brought into such close and renewed relation with patients as to be able to observe for themselves. This, perhaps, is remedied to a certain extent by the college clinics, which, though excellent, do not supply what the student chiefly needs when he enters practice. The most efficient means of remedying this defect (which is perhaps not wholly remediable, with the present curricula) are in the private practical instruction, which is given by men as competent as any in the world; but unfortunately the small additional expense of these courses greatly limits the number of students who follow them. There are serious faults in the didactic methods which in a great measure impair the value of the clinics and give the metropolitan colleges little advantage over others whose students are fewer and which control their own hospitals. Second course students whose time should be devoted, as far as practicable to the bed-side application, of what they may have in previous years acquired at the lectures or from books, are forced, through fear of failing at the final examinations, to sit upon the benches with the first course men during so many long hours that they are rendered incapable of giving the attention to the hospital clinics which they should; or they are, by the tempting offer of prizes for anatomical or surgical preparations, seduced into spending too much time in the dissecting room, which should have been the theatre of their best efforts in the earlier days of student life. This is manifestly a vicious distribution of the short time devoted to study. But the defect is one that may be easily remedied, either by the consentaneous action of all the colleges or by the independent course of any one. Let students be encouraged to devote their first annual course to the anatomical room, and let all the prizes for excellence in dissections be open only to those who do not propose to offer for graduation at the ensuing commencement. At the end of the first course let examinations be held upon certain branches, upon which, if the student passes suc-

cessfully, he need not be again examined. In these branches should be included anatomy, physiology, materia medica, chemistry and such other of the collateral sciences as may be deemed expedient. Certificates may be issued, or a record made of the successful examinations, to be, by common consent, valid evidence from one college to another, and if universal coöperation in the plan could but be secured, the effect would be to bring the student back to the same college for his final course. And this is desirable no less for the student than for the college. This plan is perfectly feasible without altering the existing methods or policy of any college. It would greatly enhance the value of the instruction given, and leave the student free, during his final course, to pursue and fix that kind of practical knowledge of which he stands most in need. It is hardly necessary to add that if any student, should fail upon any branch at the pass examination, he would not thereby be debarred from again presenting himself on the same branch after the final course. The facilities might be even further enlarged by holding "pass" examinations in mid-summer, and thus the desirable consummation reached of having the period of active continuous study cover nine months instead of five with the very pernicious interregnum of idleness extending from February to October. This scheme does not imply that the student is to take out tickets for a partial course only, for the first year. Admission to the pass examinations need not be given until payment has been made for one full course, at least which, in many instances, might not be until the end of the second winter.

DER.

Prof. Ledoux's article promised for this number will not appear until April. In the mean time those who have made applications for the number will have their requests noted and attended to. The State Board of Health will issue it as for information of the people.


Scalding Water to the Feet to Antagonize Opium.—Dr. N. L. Folsom, of Portsmouth, reports in the *N. H. Journal of Medicine*, (1858) a case of recovery from opium poisoning, in a child six years old, by the application of scalding water to the feet.—[*N. C. MED. JOUR.*, Vol. 1, pages 78 and 79, 1858.] The above remedy about twenty years later was re-discovered.

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED
IN WILMINGTON, N. C.

M. J. DEROSSET, M. D., New York City, }
THOMAS F. WOOD, M. D., Wilmington, N. C. } Editors.

 *Original communications are solicited from all parts of the country, and especially from the medical profession of The Carolinas. Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to our JOURNAL, by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to DEROSSET & WOOD, P. O. Box 535, Wilmington, N. C.*

THE PASSAGE OF THE BOARD OF HEALTH BILL.

It is a matter of sincere congratulation to the medical profession and the public at large, that the General Assembly passed the bill recommended by the Committee of the Medical Society of the State, although with some modifications.

From the beginning of the movement it was clearly evident that the work could not be brought to a successful issue without the aid of the press, and it was not reasonable to suppose that the secular press could devote much of their space to the topics to be discussed, or present them in such a shape as to influence the medical profession in a body. Realizing the necessity of arousing the medical profession to a concerted effort, the NORTH CAROLINA MEDICAL JOURNAL was mainly instituted. While this JOURNAL has endeavored to put before its readers a fair exposition of the medical sciences, it has addressed itself with especial ardor to the promotion of the cause of the public health and the passage of health laws.

The bill as it passed was first outlined in this JOURNAL. No doubt it can be successfully criticized for its imperfections, but none were more aware of these than the committee charged with its execution. It was clearly evident that our bill to stand any chance of being adopted by the Legislature must not call for too much aid, while at the same time, to suit the temper of that body it must promise to do a great deal of work.

The committee which had been struggling for two years under the first bill, (whose provisions were vague and uncertain, and from which could be derived no authority to do anything, and with only a pitiful one hundred dollars a year,) was not to be deterred from assuming any reasonable amount of work, if increased means and powers were granted. They realized that if the State would consent to organize and pay county superintendents, the greatest part of the machinery would be perfected; and with a few hundred dollars a year, and printing and stationery for the State Board, they would patiently undertake a work, the rudiments of which they only knew in theory.

The question with the committee was "What can we get?" not what we would like to have, and considering the mania for retrenchment that pervaded and unreasonably, at times, influenced so many members of the late Legislature, the success of the committee is all that could reasonably be expected. With this as an entering wedge the future is full of promise. The responsibility too is great, we should remember, and we call upon the profession throughout the State to come up promptly to the support of the officers who will have the execution of the new work in charge.

We are satisfied that the law has a vital force, the best assurance of its success being that the County Superintendents of Health are paid for their work, and are under penalty for delinquency in sending in their reports.

A full meeting of the State Medical Society at Greensborough in May is earnestly desired, that the best men in the profession in the State should be selected in composing the new State Board.

We must have working men, who, from May to May, will be busy in patient and laborious research, and we are satisfied that six competent men will be selected. As the machinery of our Society is now reaching out in a field well worked in other States, making a

comparison of results easy, the reputation of the Medical Society of North Carolina will be more than ever at stake. Let us accept our new work in a spirit of earnest determination to do it well, and our work well done will be our argument before the next Legislature for increasing means.

We desire in this connection to express our acknowledgment to Gen. J. M. Leach of the Senate and Captain R. B. Davis of the House, for their earnest and successful work in behalf of the bill; and thank also our friends of the religious and secular press, especially the *North Carolina Presbyterian*, the *Hillsborough Recorder*, the *Raleigh Observer*, the *Wilmington Review*, *Sun* and *Star* for the manner in which they have sustained our efforts.

POND'S IMPROVED SPHYGMOGRAPH.

Among the most useful and improved means of diagnosis is a very sensitive and delicate sphygmograph bearing the above name.

The physician can observe with accuracy any changes taking place in the circulation.

It is a ready means of accurately recording all that takes place in the patient's system during the progress of disease, by means of the pulse changes or modifications of the circulation.

It extends the knowledge in prognosis by marking the delicate changes hours before it can be perceived by our senses in the ordinary way.

You can secure the patient against heretofore unforeseen fainting or collapse. Impending paralysis are made known as has been shown in the hands of Dr. Pond by a difference in the pulse of the opposite sides of the body previous to hemiplegia. Dangerous complications arising in scarlet fever, diphtheria, measles, &c., can be earlier discovered, viz.: the prealbuminuric stage of acute Bright's disease. There is little doubt but that if used in yellow fever it would give the true type of the disease and furnish valuable suggestions in treatment.

No other means has been found so simple and practical in delineating the real history of disease. It furnishes a complete and

perfect picture of the state of the patient from time to time to be placed in comparison from day to day. It should be in the hands of every one who makes the study of the sick his vocation.

Every physician is convinced of the value of the sphygmograph, the question is the proper instrument, and this problem has been admirably solved by Dr. Pond's new Sphygmograph. We commend this instrument to those of our readers who are desirous of possessing a sphygmograph.

Laparo-elytrotomy.—This is the first case in Europe since the revival of the operation by Dr. T. Gaillard Thomas. The patient was aged 37 years, was pregnant for the ninth time. Four living children. She was a drunkard. The recto-vaginal system was converted into a cancerous mass, and labor *per vias naturales* impossible. Dr. Heine assisted by Drs. E. Jackson, and O'Keefe performed the operation of laparo-elytrotomy on Sunday, July 14th, at 6:30 P. M. Modified "Listering" was employed. The incision was made through the abdominal wall from above the spine of the pelvis to the anterior superior spine of the left ilium. The peritoneum was raised, and the vaginal wall pushed up by a probe passed up the vagina. It was seized with a hooked forceps and divided. A finger was passed through the wound into the os uteri, which was occupied by the head and bag of waters. A foot was seized, version effected, and a living male child delivered. The placenta followed almost immediately. The uterus contracted without hemorrhage. The operation lasted a little over twenty minutes. The wound was washed with a five per cent. carbolic solution, closed with gut sutures, and covered with antiseptic dressings. On partially recovering from the operation she became violent and abusive. Three persons were necessary to hold her down; she died about two hours after. At the necropsy, a clot about the size of a couple of walnuts lay in the bottom of the wound. The bladder and peritoneum were quite uninjured. The uterus was healthy and contracted. The os and cervix uteri were free from laceration. There was no cancerous disease in the upper part of the vagina. This case was a deviation from Thomas, Skene and Edis operation, in that it was done on the left side.—*London Medical Record.*

REVIEWS AND BOOK NOTICES.

THE NATIONAL DISPENSATORY, containing the Natural History Chemistry, Pharmacy, Actions and uses of Medicines, including those recognized in the Pharmacopœias of the United States and Great Britain. By ALFRED STILLÉ, M. D., LL. D., etc., and JOHN M. MAISCHE, Ph. D., etc. With 201 illustrations. Henry C. Lea. Philadelphia. 1879. 8vo. Pp. 1628.

The space at our disposal will permit of very little more than a brief notice of this work. Its scope is fully made known on the title page, which is given above in full, for the benefit of our readers. It has been prepared by two gentlemen whose learning fully qualify them for the difficult task, and whose eminence entitle them to be heard with the respect and attention due to authority.

The *raison d'être* of the book is modestly stated in the preface, and now that it has been published and opens to us its vast stores of information, we may add that it was almost a necessity; and this we say without meaning to impugn the great excellence of the works of similar character which have preceded it. The extent of the work precludes our dealing separately with its many topics—the more deliberate quarterly Reviews will monopolize that kind of notice, and we must be satisfied with speaking of its general arrangement and such features as are peculiar to it.

The authors have not followed the plan adopted in the U. S. Dispensatory of separating the *Materia Medica* proper from the pharmaceutical preparations; but have preferred an unbroken alphabetical order of the superiority of which, as facilitating reference, there can be no doubt; for we well remember the many losses of precious time we have suffered in turning from one to the other part of the U. S. D., in search of items which would have fallen immediately under our eye had there been no break in the arrangement.

All of the descriptions, whether medical, botanical or pharmaceutical, are clear, in good English, and unencumbered with obsolete and unintelligible terms. Those portions which have reference to therapeutics form a convenient treatise on that subject, and are made the more valuable and available by a complete therapeutical index. In pharmacodynamics, which topic embraces the

physiological effects of medicines, all that is known, and, we may say, much more, is given in lucid language, and where it has been possible to deduce from experimental physiology reasonable therapeutic applications, Dr. Stillé (for it is evidently he who had charge of this part of the work) has not omitted them, and what he has written is a good resumé of what is known of that "youngest born of medical science," which Fothergill and others have been rearing with so much assiduous care. The purely pharmacal part of the book is as perfect as it is possible to make it—and less could not have been expected when we consider Prof. Maisch's great qualifications for work of that kind. Pharmacists well known that for many years he, with the late Mr. Proctor, has stood at the head of his profession, and it is rather customary among them to accept as a judicial utterance whatever he says upon mooted points in their department.

The work seems to have been brought up to date in every respect:—we find allusions to all the new remedies, such as duboisia, sclerotic acid, etc., an account is given of their physiological action as far as developed. The new notation has been adopted in expressing chemical formulæ, and it is to be presumed that the new nomenclature likewise would have been given preference over the old, except that perhaps it was deemed unwise to be in advance of the officinal pharmacopœia in this respect.

Seeing the general tendency to the use of the metric system in weights and measurements it is, to our view, a misfortune that the dosage was not given in grams and its fractionals, in the body of the book. It is true a table is printed in the appendix, which states in both systems, the *maximum doses* of a number of substances; but as good as this is, it is limited in its value, and can never have an equal effect in preparing both professions for the coming change with that which would have followed the adoption of the metrics into the text. The acquirement of the new system would be much easier to us had we never known the old, and we are therefore prepared to state our belief very radically, to the effect that it would have been much better to have left the old apothecary's weight out of the book entirely, or to have relegated it to the appendix, there to remain through an edition or two, as a reminder of the folly to which we have clung for nearly an entire century. Formulæ for

writing prescriptions in metric terms are given in the appendix, in which the symbol GM, underscored, is placed *after* the figure denoting the quantity intended, whether grams, decigrams, centigrams or milligrams, the four latter being preceded by a decimal point. We trust that in the next edition the authors will see fit to recommend in the place of that method the one suggested by the Metric Bureau, of Boston, in which the decimal *line* is used instead of a *point*, thus leaving little room for error, either in writing or reading.

We should not forget to speak of the illustrations as particularly useful for pharmacists and for practitioners who rely by choice or necessity upon their own collections ; the shapes and markings of the leaves, fruits, tubers, roots and rhizomes are given true to nature, and accompanied by plain and faithful descriptions, will serve as a safe guide in their collection and preservation. Of course pharmacists and reading doctors will have this book ; and to those members of the medical profession (if there are any) who only need one book we would say, (as mean a ground as it is to put it on) that the National Dispensatory can dole out to them all the knowledge that they are apt to call for. The book is too weighty to be sent through the mail, and, therefore, special instructions must be given for its shipment when ordered.

A MANUAL FOR THE PRACTICE OF SURGERY. By THOMAS BRYANT, F. R. C. S., etc. Second American from the third revised and enlarged English Edition. Philadelphia. H. C. Lea. 1879. Imperial. 8vo. Pp. 945.

To the general practitioner the question as to which of the many works on surgery is best adapted to his requirements is, unfortunately too often, a perplexing one ; and, more than unfortunately, it is too often answered by a quiet falling back upon the time-honored manual which bears the thumb-marks of the student period. The attempt to practice surgery, or as to that, any branch of medicine, with only one book, from which all knowledge is drawn, it is needless to say, betokens an ignorance on the part of the surgeon of his own wants. As well might he limit his surgical armamentarium to a single dressing sponge. The question should be not as to what we *require*, but whether our requirements may not be so enlarged

as to be met only when we have access to every thing that the best men in every branch have written.

Surgery is progressive, advancing daily not only as an art but in its scientific range, and, thanks to the intelligent recognition of this fact by such accomplished purveyors as Mr. Lea, we are able to follow promptly its advance step by step. No word of praise would be misplaced in speaking of Mr. Bryant's manual. It is the outcome of a rich, ripe experience gained amidst the boundless resources of Guy's and rounded off by an intimacy with whatever has been made known in every part of the civilized world. The scope is comprehensive, if not exhaustive, and in those departments in which the attainments of perfection involves special study, the work has been committed to specialists.

The language is concise, yet conspicuous; the descriptions accurate; the illustrations intelligible, and quite fulfil their purpose. Of course, Mr. Bryant has views of his own on many topics which exhibit considerable divergence from those held by most American authorities; but so far from this detracting from the value of the work it is, to our understanding, something to recommend it, because it tends to lessen the value of the ideals which we may have set up for ourselves, and leaves us in a quasi-judicial attitude when we come to deal with our own cases; and, after all, the personal enlightened judgment of each one of us should be the final arbiter whenever grave responsibilities present themselves. And how can our judgment be enlightened, and discriminating unless founded upon the broadest knowledge! Perhaps we may find some fault with Mr. Bryant for his slight of American surgery and surgeons, since in his preface he says his aim has been to represent not so much his own opinion as the position of surgery at the time of his writing. This idea, it seems to us, should have led him to take some note among other things of Bigelow's litholapaxy, now more than a year before the profession; of Otis' urethrometry and urethrotomy; of Van Buren's method of overstretching the sphincter ani for fissure; of Emmet's valuable contributions to the surgery of the cervix uteri and sphincter ani. And it would not have been amiss to include some accounts of Thomas' laparotomy, and of Porro's supplement to the Cæsarian section—for these are topics no more alien to a work on general surgery, than

is ovariectomy or phakotomy which receive more than a superficial treatment.

We have no space to admit of an enumeration of the general excellence of the work, but would mention especially the introductory chapter as of interest to the general practitioner in inculcating the importance of diagnosis founded upon facts instead of probabilities or conjectures; and in its comprehensive instruction upon the investigation of cases. If our country brethren were as methodical and painstaking in recording their cases as are the specialists of the larger cities they would have a rich and valuable store from which to purvey for the provincial journals, thus enabling them to render *quid pro quo* to the metropolitan publications.

The letter press of this large volume is clear, neat, and singularly free from errors—a condition hardly attainable unless under the supervision of such a publisher as Mr. Lea.

I. REPORT OF THE BOARD OF HEALTH OF THE STATE OF NEW JERSEY, 1878. Pp. 247. Trenton, N. J. 1878.

II. SIXTH ANNUAL REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH OF THE STATE OF MICHIGAN, for the fiscal year ending September 30th, 1878. Pp. 355. Lansing, Michigan. 1878.

1. The volume of the New Jersey Board embraces many articles of interest. The first one of them, a "Report on the Disposition of insane Criminals, by a committee composed of two members of the State Board, Dr. Cyrus F. Brackett and Ezra M. Hunt. After collating opinions from many sources the committee is inclined to think treatment of criminal insane would be best done in an annex to the already established insane asylum, and to this should not be attached the odium of a convict hospital.

Dr. Ezra M. Hunt gives a "Report of an Outbreak of Enteric Fever at the State Reform School, Jamesburg, N. J." This paper is illustrated with a diagram showing the ground plan of the Reform school with its sewerage, water supply, and privy.

The cause of the disease was made out by Dr. Hunt to be due to infection resulting from ill-constructed sewerage, and water contaminated with organic matter apparently of animal origin, and an abnormal quantity of the chlorides.

Dr. H. congratulates the Superintendent for the promptness with which he remedied the evils.

The article on "Springs, Wells, and Cisterns as Sewers of Drinking Water" is by Prof. H. B. Cornwall, E. M., and is worthy of careful perusal. It can hardly fail to instruct its readers about the least known of all hygienic conditions.

The article on Vaccination by E. J. Marsh, M. D., failed to bring the subject up to its last development. He seems only to favor "a resort to animal vaccine virus" "if doubt, fear or prejudice still continue on the part of physician or patient," whereas if the history of vaccination for the past fifteen years has taught preëminently one thing, it is that the employment of animal virus alone has restored Jenner's discovery to all of its pristine usefulness.

We are glad to see that further on, Dr. Marsh points out how the old difficulty of obtaining sufficient "matter" for vaccinating in case of a enormous and sudden increase of applicants for vaccination.

Veterinary Report.—The Board has added a veterinary department to their work, and the good possible to be done by such an addition is too obvious for further mention.

The volume concludes with a report of the Medical Superintendent of Vital Statistics.

II. The volume of the Michigan Board presents a greater variety of subjects than is treated in the volume just noted, and is of a more practical character. Some of the subjects treated of are "Special Reports and Commnnications, Outbreaks of Typhoid Fever and of Scarlet Fever, Sickness due to Emanations, Sickness due to Contamination of well water from a slop drain, &c.;" "Illuminating Oils, Explosive Lamps, Breaking of a Lamp and Death of two Women Thereby;" "Lead Poisoning from the use of Tinned, Glazed, and Enameled Ware: Report by Prof. R. C. Kedzie;" "Cancer not caused by use of Tomatoes;" "Wood Pavements and Wood Sidewalks on Public Health;" "The Opium Habit in Michigan;" "Diphtheria: Special Report of three Malignant Outbreaks, and Document of State Board Concerning the Restriction and Prevention of Diphtheria;" "Preservation of the Teeth," &c.

The article which will attract the most attention in this volume, is the one entitled "A Study of the Climate of the lower Peninsular of the State of Michigan," by Dr. Henry F. Lyster. The

geology of this section of the State is given, and illustrated with a map. The topographical features are illustrated with six diagrams, founded upon the railroad surveys. Map number VIII gives the Forests, numbers IX and X, Temperature Charts, number XI, Rain Chart. This excellent paper is worth a great deal intrinsically, but for its suggestiveness, showing the possibilities of a more extended application of Dr. Lyster's treatment, it will serve an admirable purpose beyond the limits of his State.

The Michigan Board of Health has taken up the matter of illuminating oils in the most practical ways and we believe it will not be long before other States will follow the example so industriously pursued by them. If ever a law was needed to be enforced with rigidity, it is the one which forbids the use of light illuminating oils. They are, without exception, highly explosive. The Michigan Board is empowered to condemn oils not withstanding the flash test of 140° F.

In only one matter do we find the machinery for the regulation of the profession better in our own State than in Michigan, and that is in licensing practitioners. We have been fortunate in having very few homœopathic physicians in this State, and, therefore the oppositions to our efforts has been small. It is incredible that in a State with over a million of people there is but one homœopathic physician, but as far as we have been able to learn this is the case in North Carolina.* In Michigan, the Hahnemannists are plentiful, and the Board will be exceedingly fortunate if they succeed in carrying their point, in regulating the practice of medicine.

The report of the work done in the Secretary's office shows Dr. Henry B. Baker to be one of the most industrious and pains-taking officers of Health in this country. The small and numerous details which he has originated in his office, will save secretaries of new boards an immense labor, and we thank Dr. Baker in advance for the use the North Carolina Board intends to make of them.

*Dr. Wm. E. Freeman whose death was noticed in February JOURNAL.

YELLOW FEVER. By THOMAS O. SUMMERS, M. D. Professor of Anatomy and Histology in the University of Nashville, and Vanderbilt University. Nashville, Tenn. : Wheeler Brothers. 1879. Price \$1.00.

This little work of seventy-two pages is divided into four chapters on the *Etiology*, *Pathology*, *Clinical History*, and *Treatment* and *Prophylaxis*.

The one point of etiology, Dr. Summers lays much stress upon is the atmospheric condition; "From patient and careful analysis" he writes (p. 10) "of the atmospheric relations in those places where the disease has prevailed, as compared with those places of the same latitude where it has not, I am well assured, that by the use of the hygrometer we shall in time be able accurately to determine during any one season whether or not any given place enjoys immunity from yellow fever."

Again "I have not the slightest doubt that the external conditions for the development of yellow fever may be found in the atmosphere alone; nor do I believe that any amount of hygienic regulations can do more than indirectly modify the propagation of the disease by placing the subject of infection upon a more healthful basis from which resistance to its influence may be more successfully offered. I should be far from discouraging sanitary measures * * * * *; yet cannot but accept the fact, as it is forced upon us, that this terrible scourge is one of the powers of the air, and cannot be resisted except upon those general physiological principles which lie at the basis of all medical sciences."

As to the specific germ he says "All that can be discovered to establish the specific and nature of the disease is gathered from the presence of microzymes in the blood * * * * * We encounter bacteria, vibriones, torulæ, monads, but never a germ which specifically determines the characteristics of the fever."

Of the germs he says: "the atmosphere is at all times charged with them, but they do not become infectious unless the relations of the heat and moisture in the air sustain a favorable relation to sporulation, or fructification. * * * * * These conditions are found in a malarial atmosphere."

This apparently gives the key to the author's reliance upon the moisture of the atmosphere, inclining in his argument to the germ theory, although he denies it in his summary.

He answers the question decidedly in the negative—"Is yellow fever contagious?"

That it is not necessarily an imported disease. "If malaria is an indigenous disease; then is yellow fever also, since it requires only this intensified malarial influence to furnish the groundwork of its development."

His own conclusions are:

1. Yellow fever is a zymotic, or fermentative disease.
2. It does not depend upon a specific germ.
3. It is ushered in by a train of intensified malarial influences which gradually glide into specific fever.
4. It depends for its development upon the atmospheric relations of heat and moisture.
5. It is not a contagious, but an infectious disease.
6. It is a disease which may at any time spring up in Southern latitudes indigenously, whenever the atmospheric conditions are favorable."

Of the pathology of the disease, Dr. Summers is at variance with La Roche in some respects, and is as full on these points as we could desire, and we wait until all the pathologists have published their notes on the diseases before we can justly institute a comparison.

Dr. Summers writes positively against the use of quinine in yellow fever, in his experience and that of his medical brethren, "it was found not only not beneficial in its effects, but utterly disastrous."

His entire treatment is simple enough, and apparently rational. He regards the use of water baths and sponging and the wet pack in the pyrexia of the disease as promising good results. "Not a man among us" he writes "had the courage to carry out [cold water] the treatment, though I have yet the first one to meet who does not endorse it as rational. Water is the remedy in yellow fever."

The author is pronounced in his opposition to a general quarantine, and to the National Quarantine movement.

We have already devoted space enough to show our readers the aims of this essay, and as all interested in this absorbing topic will read the book, we commend it to their attention while we wait, as they will wait until the whole mass of material has been brought before the profession and analyzed.

SYLLABUS OF A COURSE OF TWENTY-FIVE LECTURES ON HUMAN PHYSIOLOGY AND HYGIENE. Delivered at the University of North Carolina. Spring Session. 1879. By FREDERIC WILLIAM SIMONDS, M. S. Professor of Geology, Zoölogy and Botany.

Lecture I.—1. Nature of cells and cell growth. 2. Tissues of the body. 3. Bones, their composition, structure and mode of development. 4. The skeleton. 5. Treatment of fractures: head, collar-bone, ribs, arm, hand, foot, thigh and leg.

Lecture VI.—1. Properties of the blood. 2. Composition of the blood. 3. Fibrine—its properties. 4. Anatomy of the heart. 5. Action of the heart. 6. Comparison of hearts of fish, reptile and mammal.

Lecture XIII.—Reproduction and Hygiene of the Reproductive Organs.

Lecture XVII.—1. Characters common to the brain of all Vertebrates (excepting *Amphioxus*). 2. The Mammalian brain. 3. Structure of the human brain. 4. Functions of the cerebellum and how they have been determined. 5. Functions of the cerebrum.

Lecture XV.—1. Choice of a dwelling site. 2. Drinking water. 3. Necessity of sanitary regulations in cities and villages. 4. Disinfectants. 5. How to maintain health. 6. Care as to food and habits. 7. Conclusion.

We have selected here and there the captions of these lectures, to show their scope.

Physiology and hygiene have been greatly neglected in the education of our young men, and the students of the University may consider themselves fortunate in having this rather rare opportunity of learning something about themselves. With our experience with young men (and young women too) we believe there is no subject upon which the best educated of them are more ignorant than the functions of the body, and especially of the function of the generative organs. A thorough understanding of these matters would greatly tend to overcome many of the extremely erroneous traditions which seem to be the heriloom of both sexes, to the great detriment of the physicians when these young people become their patients.

CLINICAL LECTURES ON DISEASES PECULIAR TO WOMEN. By LOMBE ATTHILL, M. D. University Dubl. Fifth Edition. Revised and Enlarged. With illustrations. Philadelphia. Lindsay & Blakiston. 25 South 6th street. Price \$2. Pp. 342. 8vo.

That a work can make such good headway as to reach its fifth edition in face of the admirable American and English works on the same subject, is a good criterion of its merit. The former editions have met with words of approbation from many of the best journals in this country.

The author in his preface declares that the object he had in view "was not to supply practitioners and students with information already within their reach, in recognized manuals of surgery, but to furnish them in the limits of a moderate-sized volume, with such an account of the diseases] peculiar to women, brought up to the standard of the most recent period, and verified by my personal experiences, as would meet their wants, and tend to the more general diffusion of a knowledge of these common, but unfortunately, much-neglected affections."

The seventeen Lectures which make up this volume cover a large part of the field of gynæcological practice. viz. : Leucorrhœa; Amenorrhœa; Dysmenorrhœa; Menorrhagia; Mucous, Cystic and Fibrous Polypus; Fibrous Tumors; Inflammation of the Cervix Uteri; Displacements of the Uterus; Enlargements of the Uterus; Cancer; Ovarian Cystic Disease; Uterine Therapeutics.

In the treatment of fibrous tumors with ergot hypodermically, Dr. Atthill gives his experience. After trying several methods of using ergotin and extract of ergot from different chemists, following the plan of Hildebrandt, and all the writers who had employed the drug hypodermically by mixing it with glycerine and water, he concludes that the addition of glycerine is most injudicious. He finds that the hypodermic injection of ergot is most efficacious in restraining uterine hæmorrhage depending on the presence of a fibroid, and that the treatment is not altogether unobjectionable. Three of his cases had troublesome abscesses, while in a fourth he was obliged to abandon the treatment on account of the pain it caused. Since omitting the glycerine in his injections he has had no abscesses. Unless the patient can remain at rest, he does not recommend the hypodermic employment of ergot. Further on he

says : " You will gather from what I have already said, that I am not an advocate for surgical interference in cases where large uterine fibroids exist, if it can be possibly avoided. My reasons for arriving at this conclusion are two-fold, namely, that the majority of such cases go on tolerably well for years, and that if by plugging the vagina, by the hypodermic injection of ergot, or the use of other means, at our disposal, we can check profuse menstruation where such exists, there is every probability of the patient's condition improving when she arrives at the climacteric period, and when the uterine functions cease to be actively performed." Page 158.

The chapters on Uterine Therapeutics will be as freely consulted in this manual as any other, and its suggestions as to appliances seem to come from a vast store of practical knowledge.

Of the employment of cold he says : " Without doubt the application of cold to the spine has sometimes a marked effect in lessening the distressing sickness experienced during pregnancy. Doubtless, too, it is a remedy which frequently fails to effect good ; but it is nevertheless a valuable one ; let me, however, urge on you the necessity of caution, for I am by no means sure that it is not capable of producing abortion. There is one other method of relieving the suffering so constantly experienced in cases of uterine disease by external means, which it is well to bear in mind, and which I urge on you not to despise because of its simplicity, or because it is recommended by a class of men whose practice is not in general worthy of imitation. I allude to the wet abdominal bandage. It is usually applied by dipping one-third of a calico bandage, three yards long and a half yard wide in water ; the wet end is applied around the pelvis and the dry part rolled outside it so as to prevent the patient's sheets, or, if worn in the day time, as it can easily be, her clothes, from being wet. This is especially useful in allaying pains depending on ovarian congestion or irritation, and, indeed, is beneficial in all cases of uterine disease." Page 313.

The publishers have brought out this work in an attractive manner, leaving nothing to be desired in the way of typographical execution.

REPORT OF L. L. POLK, COMMISSIONER OF AGRICULTURE. For 1877-'78. Pp. 51. Raleigh Observer. State Printers and Binders, 1879.

ANALYSES AND VALUATION OF FERTILIZERS. For 1877 and 1878. Reported by DR. ALBERT R. LEDOUX. Director of the North Carolina Experiment Station. Chapel Hill, N. C. Re-published by order of the Board of Agriculture. L. L. POLK, Commissioner. Pp. 14.

FISH CULTURE IN NORTH CAROLINA. Report to the Commissioner of Agriculture. By S. G. WORTH. Pp. 26.

1. Many of our subscribers are aware of the efforts being made by the State in the interests of the farmers; and many of the doctors in this State, (unfortunately), have to divide their time between the practice of physic and farming, so that to no class in the workings of the experiment station a matter of greater interest than the medical profession.

We learn from Col. Polk's report that in the Neuse, Catawba, Yadkin, Haw, Tar, Nottoway, Roanoke, Meherrin and Chowan rivers and other streams, that 3,902,400 young shad were deposited in 1877 and 1878. Of California salmon, 234,000 were deposited in the Yadkin, Pigeon, Broad, Swananoa, Cape Fear, Linville, Johns' and Catawba rivers, in 1877 and 1878, and an additional number in 1878 and 1879. Also a small lot of Land Locked salmon to the amount of 15,500 were turned in different streams. The Commissioner complains that the smaller streams are being dried up by the thoughtless destruction of trees, and that in some places the streams are dammed for the purpose of catching fish, and by this means and with the destructive set-nets and seines employed in the spawning season. Some of our waters are being depopulated.

Col. Polk asks the Legislature to appoint a fish commissioner to attend to the important business of propagating and distributing fish. This work is so important that we hope the Legislature will not stop to count the comparatively small outlay involved.

2. Under the head of Commercial Fertilizers it appears that licenses have issued to the sale of thirty-one brands for 1877, and for forty brands for the year 1878. According to the law of the

State, all fertilizers offered for sale are first analyzed by the Experiment Station by Dr. Ledoux. In the paper which accompanies Col. Polk's report, is given all the analysis offered for sale. This experiment station is the second one of the sort in the country, and is founded upon a correct principle, and should be sustained morally by the farmers and with money by the Legislature.

Col. Polk is sound on the dog question. He says that there is about one dog to every three sheep in the State, and they have made sad havoc with the sheep in the past year. Of course the moral of this is, destroy the dogs or tax them out of existence. We are clearly of this opinion. Niemeyer points out that prophylaxis by destroying the dogs, is more to be trusted than remedies for hydrophobia, and so arriving at our conclusions by a very different route, we will second any motion to reduce dogs to the minimum.

We will not go further into an examination of these reports, but ask our friends, the farmer doctors, to secure a copy and read it. If we are not greatly mistaken the Department of Agriculture has a career of usefulness before it which it is hard to overestimate. One matter strikes us, however, as being essential to the success of the State's work in inducing emigration, and that is to furnish a reliable bulletin of the public health. Foreigners are too deeply impressed with the traditional land of paradise abounding in rich alluvial soil, and fever and ague, to change their opinions, and come and live among us, until they get official information. This cannot be done until the State has a Board of Health with means to work its machinery.

3. If all departments of the State were conducted with so much enthusiasm and intelligent purpose as shown by Mr. S. G. Worth, we think even the "Farmers Legislature" would see enough in it to afford liberal aid. This report is the clearest indication we have seen since the war of the progressive element in the new generation of Carolinians. Every citizen of the State should read Mr. Worth's report, and make his influence felt to the furtherance of his important work.

Decipium and *philipium* are two new elements discovered in the Samarskite of North Carolina, by Delafontaine.

THE INDEX CATALOGUE OF THE NATIONAL MEDICAL LIBRARY--THE NEW HEALTH BILL.

Dr. John S. Billings, writes to the New York *Medical Record*, March 6th as follows :

The printing and binding of the first and second volumes of the index catalogue of the library of the Surgeon-General's office has been authorized by a clause in the Sundry Civil Appropriation bill, which appropriates twenty thousand dollars for that purpose. As the MS. for this work is ready, it will be sent to press without delay. As great care is necessary in proof-reading to secure the accuracy which is essential in a work of this kind, the printing cannot be hurried, but it is hoped that the two volumes, each of about 1000 pages royal octavo, will be completed by June, 1880.

The bill providing for the census of 1880 also passed. This bill [set on foot by the timely wisdom and forethought of Dr. Billings. —Eds.] provides for the securing statistics of disease as well as of mortality, and we may fairly hope under its provisions, to obtain some very valuable data as to the relations of locality, occupation, age, race and sex to the more important diseases.

Congress also passed the Public Health Bill, which is the bill introduced by Mr. McGowan, of Michigan, with some modifications.

* * * This bill was supported by the American Health Association, and by the great majority of leading sanitarians of the country. It was opposed by the Marine Hospital Service, and by many of the advocates of a strong uniform national system of quarantine. The essential feature of the bill, as urged by its friends, was that the United States ought to encourage and aid State and local boards as much as possible instead of trying to override and control them.

To this end it was proposed that the United States should subsidize properly constructed boards by paying half their expenses, precisely on the principle adopted in the new census law, which provides that when a State, in 1885, shall take a census on the plan of the United States census, the United States will pay half the expense.

It will be seen that this feature was stricken from the bill, but it is to be hoped that it will be restored in the coming extra session of Congress.

CURRENT LITERATURE.

YELLOW FEVER EPIDEMIC OF 1878 IN NEW ORLEANS.

By JOSEPH JONES, M. D.

Professor of Chemistry and Clinical Medicine, Medical Department of the University of Louisiana,* &c.

Our space is already largely taken up with yellow fever this month, but we deem the subject very important. We will endeavor to keep our readers *au courant* with its literature, and we could not pass by the contributions by Professor Joseph Jones, of New Orleans, so well known in North Carolina as the most indefatigable investigator in our whole Southern country.

"Origin of the Epidemic of Yellow Fever in New Orleans in 1878.

"Two views may be held as to the origin of the epidemic of yellow fever in New Orleans in 1878 :

"1st. That the fever was imported from Cuba, or some other foreign port south of New Orleans, in the Antilles or in Central or South America.

"2d. That the fever was due, both in its origin and spread, to local causes and climatic conditions.

"The late Dr. John Harrison, in a valuable article entitled '*Speculation on the Cause of Yellow Fever*,' published in the *New Orleans Medical and Surgical Journal*, March, 1847, thus formulates the facts to the origin of yellow fever in New Orleans :

"The theory, then, of the etiology of yellow fever may be thus stated : From the accumulation of filth in large cities, (chiefly night soil and the animal matters of urine), putrefaction must necessarily take place, and from this putrefaction, *under certain meteorological conditions*, there is generated a poison, which either in the form of a volatile oil, or other organic matter, held in solution by ammonia, floats in the atmosphere ; is inhaled during the respiratory movements ; is taken into the circulation and poisons the system. It produces specific effects, as much so as the matter of small-pox or scarlatina.

"The formation of this poison begins under certain meteorolog-

*New Orleans Medical and Surgical Journal, February and March, 1879.

ical conditions, which are utterly unknown to us, continues while they last, and ceases with them. As we have said before, 'this poison is not a gas, but a volatile substance, constituted of organic matter as much so constituted, as the matter of small-pox or hydrophobia.—(*The New Orleans Medical and Surgical Journal*, March, 1848, pp. 569 and 580.)

"On the other hand, Professor W. M. Carpenter, M. D., in his 'Sketches from the History of Yellow Fever,' thus gives his general conclusions :

"Yellow fever is a disease not native to the continent of America, but of foreign origin ; introduced first from Siam, and afterwards aggravated in its type by the importation of the Bulam fever.

"No well authenticated case of the *specific disease called yellow fever* has yet been known to occur on the American continent, under circumstances which precluded the possibility of infection, or even rendered it probable that it originated independent of transmission, either by going into infected localities, opening boxes or parcels from infected places, visiting boats or vessels from infected towns, or opening of rooms closed during the prevalence of an epidemic.

"Since the introduction of the yellow fever into America, it has always existed in some part of its coasts. It prevails almost perpetually near the equator, where the temperature of winter is rarely low enough to destroy the infection ; and it is carried by commerce to the countries lying north during that portion of the year between February and November, and to the regions to the southward from August to May.

"Yellow fever is a disease *sui generis* and peculiar, and not a grade of type of bilious fever ; * * *.

"The yellow fever is not produced by a crowded population, neither by heat, moisture, marsh air, miasm, filth, nor by any combination or concurrence of them ; otherwise it should always occur when they concur, and should not occur when the particular combination is absent ; neither of which we find to be true.

"The transmission of yellow fever depends exclusively on intercourse and commercial relation, any city being liable to infection in the precise ratio of its proximity to, and of its unrestricted communication with parts or places where the disease is epidemic. * *

"Yellow fever requires for its transmission, a moderate summer temperature; a certain accumulation of people, as the crew of a vessel, or the population of a town, city, &c.

"Under certain circumstances of population and temperature, the introduction of persons with yellow fever and of the air from places where the disease is epidemic, will frequently give rise to new cases, and finally to an epidemic of the disease. The infection may be conveyed in vessels and their cargoes, and the bedding and the seamen.

"The healthy state of a vessel's crew is no proof that she may not be infected; for the crew may all be acclimated, while the infection may be sealed up in her hold or contained in the cargo, &c., and may only exhibit itself after the arrival at a healthy port and among the unacclimated persons who may visit or receive freight from her.

"Cleansing and ventilation do not always destroy the infection in a vessel. Therefore, quarantine, with these precautionary measures, is not a sufficient guarantee for the public health.

"The only means by which the public safety can be guarded, is to prevent all vessels coming from sickly ports or places from coming above the quarantine ground, whether their crews be sickly or not. Provision should be made enabling them to discharge and receive freights safely and expeditiously, and arrangements should be maintained by which the freights so discharged should be delivered to the consignees as soon as the time expires which may be deemed necessary for its perfect ventilation and disinfection."

Dr. Jones in examining the questions in point confines himself to well-known facts. He gives the examination of the quarantine records, which show that only three vessels infected with yellow fever arrived at quarantine during the months of April, May, June, and July. The first, *Emily B. Souder*, arrived May 22d, 1878. She passed up to the city and presented a clean bill of health. Clark, the purser, was ill when the vessel reached quarantine, but managed to evade the inspection. He died on the 25th of May, and Dr. Drew, a physician familiar with yellow fever attended him on board and ashore, giving a certificate of death from malarial fever.

It is useless to follow Dr. Jones through the story of the crew of the *Emily B. Souder*, for it is as well known, and as much doubted as any of the wonderful stories in Darwin's *Zoönomia*.

Dr. Jones goes on to show how very few cases of yellow fever occurred at quarantine station—seven in all, among 282 vessels arriving;—and also to confirm by his own experience, and that of Prof. Chaillé, the inefficiency of quarantine. The latter gentleman after viewing the history of the Mississippi River Quarantine Station, declares that after twenty-three years trial, quarantine has annually failed of its sole object—to keep all cases of yellow fever out of the city. During the military occupation of New Orleans the experiment was tried, whether this failure was attributable to defects of the law, or of its execution; for by this exercise of authority, an *impregnable* system of quarantine was maintained, and notwithstanding its remorseless rigidity there were cases of yellow fever among the civil population every year. [What becomes of Gen. Butler's boast of the non-appearance of yellow fever during his administration in New Orleans.]

“Worse than this” Dr. Chaillé continues, “in 1863 and 1864 yellow fever appeared on board vessels of the United States.”

After reciting the narrative of the first cases occurring, Dr. Jones concludes—“The yellow fever of 1878, sprang up in the month of July, simultaneously in widely separated portions of New Orleans. This has been shown even by my own limited experience.”

Further on he says :

“From the preceding investigation, no light was thrown upon the foreign importation of the disease; on the contrary, the facts developed appear to favor the view of the domestic origin of the disease; at all events no connection can be traced between the various local outbreaks, occupying a belt at least, two miles in length, and the two cases said to have been engendered on board the steamship Emily B. Souder. The connection of these cases with the subsequent and simultaneous explosions in different portions of New Orleans, can be connected neither in space, nor in time.”

Dr. Jones disagrees with Professor Choppin as to exclusive non-intercourse with South American and West India ports. He thinks this commerce should be carried on by acclimated persons, that New Orleans may reap the benefit of the trade.

These papers conclude with observations on the chemical and microscopic constitution of the air during the prevalence of the fever.

Dr. Jones finds that the blood of yellow fever patients differs materially from that of malarial fever patients; in the former disease the blood corpuscles rapidly assume a crenated form, with minute transudations upon the surfaces. In a severe case of yellow fever the blood often contains small particles possessing a vibratory motion. He has also observed bacteria and a singular delicate fungus in the blood of yellow fever patients.

Dr. Jones' deductions as to the agency of organisms are interrogatory and suggestive rather than the statements of an observer who was himself convinced.

LACERATION OF THE CERVIX UTERI—(HYSTERO-TRACHELORRHAPHY, PAUL F. MUNDE, M. D.)

In an article of seventeen pages, (*Am. Obs. Jour.*, Jan., 1879), Dr. Mundé writes about this now well-known lesion. Until he investigated it, he thought that Dr. Emmett was entitled to the credit of first discovering the laceration of the cervix, but in Gardner's work on sterility published in 1856, he finds it not only described but illustrated with comprehensive drawings. Questions of priority are very seldom matters of great concern when one is searching for practical things, and the medical profession owe Dr. Emmett thanks for putting the subject before them in a strong enough light to attract their attention.

Dr. Mundé's article is illustrated with twelve figures in chromolithography, in a style we take it, that he so greatly desires the contributors to the *Am. Jour. of Obstet.* to follow.

The experience upon which this article is founded is the observation that "out of 700 parous women (meaning such as had been delivered of one or more children at or near term) treated by me at the Out-Door Department of Mount Sinai Hospital during the past two years, there were 119 with lacerations of the cervix uteri of one or the other of the three degrees assumed by me. Of these, 92 were bilateral, 24 unilateral, (17 right, 7 left; this latter result is contrary to the experience of others, who found the sinistral

lacerations the more frequent, in accordance with the greater frequency of the left occipital presentations, and is probably accidental), two through the posterior and one through the anterior lip. Of these 119 cases, 20 were of the first, 45 of the second, and 54 of the third, or most severe degree. In only 16 cases was there no eversion and an absence of local and general symptoms attributable to the lacerations. In three cases the everted surface was cicatrized and innocuous. To show the rarity of simple uncomplicated eversion of the cervix, in comparison to the eversion and ulceration of the everted cervical mucosa, I will merely mention that only eleven instances of this formerly so commonly diagnosed affection were observed among these 700 cases." * * * "The percentages of lacerations observed by me is 17 per cent."

Dr. Mundé hopes that he has demonstrated that not *every* laceration of the cervix should be operated upon as a duty, for he believes that a certain proportion of these lesions either do not require any treatment because they produce no symptoms, or, in a lesser proportion, are amenable to caustic and astringent applications—but there is a very large class of cases in which the operation is called for, not by the extent of the injury, but by the symptoms which it produces and the pathological conditions which it aggravates or maintains."

[In the January number of the NORTH CAROLINA MEDICAL JOURNAL, Dr. Joseph Graham, of Charlotte, contributed an article on laceration of the cervix, which it is well to refer to again. Many of our friends have had reason to thank the author for the light that paper throws upon pathological conditions heretofore neglected. Now since the cause of many obstinate "ulcerations" is known, we begin to realize that Dr. Graham did not attach an exaggerated importance to the lesion.—EDS.]

CASE OF RECOVERY FROM LEPROSY.

Mr. Jonathan Hutchinson brought a case before the Royal Ch. Med. Society of London, as an instance of complete arrest of the progress of true leprosy. There was still paralysis of one ulnar

nerve, and many patches of skin were deficient in sensation, and there were permanent changes in the eye. In other respects, however, the cure was complete, and the patient enjoyed excellent health. The subject of the case had been under the author's observation for twenty-seven years. She is a Jewess, born of parents who had lived only in England, of a family in which no leprosy taint existed. At the age of thirty-two she went to live in Jamaica, and twelve years later she returned the subject of leprosy in a severe form; the tubercular and the anæsthetic symptoms were present in combination; areas of skin were dusky and devoid of sensation, one ulnar nerve was paralyzed, and the face was covered with tuberculous folds of indurated skin. She was for some time under treatment at the Hospital for Skin Diseases, then an in-patient under the Addison at Guy's, and lastly at Moorfields. For the last twenty years she has considered herself well. The author expressed his belief that the cause of the recovery was the change of residence and the element of importance in this the change of diet, and the special article of diet in question—fish. He did not believe that mere climatic influences, air, etc., had any share in the result, for, in regard to leprosy, it prevailed under the most various conditions.

The President, Dr. Charles West, questioned the correctness of Mr. Hutchinson's theory, as a certain monastic order lived chiefly on fish and yet he was not aware of the prevalence of leprosy among them.

Dr. Gilbert Smith had seen many cases of leprosy in the parts about the delta of the Nile, and it was common opinion that it arose from eating fish that had been exposed to the rays of the sun.

Mr. McNamara said that leprosy existed among the tribes of the Himalaya Mountains, who ate very little fish, while it was not met among the inhabitants of the Don and the Volga who used much fish. The inhabitants of the Sandwich Islands were free from leprosy until the immigration of Chinese in 1836.

There had been also a case in an European resident in Queensland, where there had been an immigration of Chinese. In this case, filariæ were found in the blood, and leprosy would probably be found to be connected with the presence of these organisms.

Mr. Hutchinson said that the connection of fish-diet with leprosy

was a question of much detail, on the consideration of which there was not now time to enter. He would, however, say that he believed it was not so much the amount of fish as its quality that was important. A small quantity of bad fish would probably produce the disease, especially when it was taken from water of a high temperature. In Norway, leprosy did not prevail in Bergen; except among the poor; the water there was comparatively warm, being exposed to the Gulf Stream. At Christiania, where the water was cold, there was no leprosy. Again, leprosy was met with in those parts of the coast of the Mediterranean to which fish was supplied.

Sir Joseph Fayrer said that if bad fish produced leprosy, the inhabitants of British Burmah ought to be very liable to the disease; but they were not. It was the universal belief in India that leprosy was not due to the use of fish as food.—*Med. Times and Gazette*, February 22d, 1879.

THE NEW QUARANTINE LAW FOR THE PORT OF WILMINGTON.

By act of General Assembly, just adjourned, the port of Wilmington has been provided for with a more effective quarantine law. We quote from memory some of the new features as we have not seen the new bill since its ratification.

The quarantine officer at Smithville is assisted by two consultants chosen from the medical profession of Wilmington by the President of the State Board of Health.

Dr. W. G. Curtis, the quarantine officer at Smithville, is well pleased with the new law, and believes it will afford security and satisfaction to the public.

The Legislature made an appropriation for repair of the quarantine hospital.

The Twenty-Sixth Annual Meeting of the Medical Society of North Carolina, the State Board of Medical Examiners, and State Board of Health meet in Greensborough on Tuesday, May 20th.

MEDICAL ANNOTATIONS.

Fatty Embolon in Fractures.—M. Déjerine contributes an article to *Le Progrès Médical* (Nov. 23, 1878). In 1862, Zenker made an autopsy of a man crushed between two wagons and found the capillaries of the left lung filled with fat. In the same year, Wagner, published many cases of fatty embolon, but regarded the fat as originating in a metamorphosis of pus, and as one of the causes of pyæmia. It was not until 1865 that Wagner and Busch recognized the nature and cause of fatty embolon, as due to osseous alterations. It was proved that fatty embolon has its origin in the medulla of the bones, that it was really localized in the lung, but it was met with in every tissue in the organism. It was pointed out that by this mechanism a fatal termination was brought about in a number of those cases of more or less sudden death observed after severe injuries, and up to this date attributed to what is designated as shock.

From the researches enumerated it follows that fatty embolon, general or localized in the lungs, is much more common than is frequently supposed, and that it is produced not only in all fractures, simple or complicated, but it may be observed, without reference to injury, in all cases where the bones are altered in structure from some cause or other, in such the fact is less grave.

A case of crushed legs occurred in the service of Dr. Cusco, and a post-mortem examination was made. The blood of the right ventricle contained a large quantity of fat in the form of drops. The vessels of the lungs were gorged and literally injected with fat; sections of the lungs showed under the microscope, in the interior vessels, arterioles, veins and capillaries, elongated masses, three, four, and five millimètres in length, embellished with a special refulgency, disappearing under the action of ether, and becoming deep black, colored with osmic acid. These globules of fat were so abundant at certain points that they designated not only the peri-lobular vascular network. Another case similar, confirms the above observations, and resemble in all points those which have been made in Germany of late years.

The Plague and the Inefficacy of Quarantine.—The following extract is taken from the *London Times*, January 31st. The entire article is the best we have yet seen, but is too long to be published in full.

“The symptoms which appeared in the time of Justinian and in the time of Boccaccio have been precisely reproduced in the pestilence which is now in its fourth or fifth year of prevalence, and to which public attention has been suddenly directed by reason of its invasion of Russia—an event long foretold, and which could not, in the nature of things, have been much longer deferred. If the disease should reach Moscow, or even any large village inhabited by

filthy Russian peasants and with no means for limiting the spread of infection, there is every possibility that the scenes which occurred in London or in Eyam in 1665 will be repeated. It is much to be regretted, however, that the public authorities of Austria, Hungary, and even Germany, appear to be inclined, in defiance of all knowledge and experience, to have recourse to quarantine in the hope of checking the spread of the epidemic. Misled by what Mr. Simon has happily called "the paper plausibilities" of quarantine, a measure which never has been and never can be rendered effectual, they are in imminent danger of neglecting those preparations for dealing with the disease if it should come in which alone true safety is to be found. The cordons of Cossacks around the infected Russian districts will be as useless for any purpose of prevention as the fence of hurdles which is said to have been employed to exclude cholera from a parish in a midland county during the epidemic of 1832. Even if the Cossacks were numerous enough to maintain touch in an unbroken circle, fugitives would still find means of passing through their ranks; or, if not, these very ranks could hardly escape either the infection or becoming the means of conveying it to others. As we have often insisted, quarantine, which could not be rendered effectual even in the middle ages, is more than ever an impossibility now, and it would be as well to attempt to carry water in a sieve as to shut up within certain limits a population earnestly desirous of transgressing them. A single person evading the quarantine may render all the preceding precautions of no avail, and, with the knowledge of the present day, the adoption of the measure would almost justify a charge of insanity against any rulers who put their trust in it. In the event of the West being invaded, either through the railways of Central Europe or through the traffic of the Mediterranean, before the epidemic has exhausted its force, we in this country are prepared to face and to disarm the peril. The health officers of our ports will be on the alert, and any suspicious cases of imported sickness will be promptly and effectually isolated; and rendered harmless. Unless the professors of sanitary science are wrong in first principles, or unless gross negligence is displayed where vigilance is a duty, we may look for the arrival of plague without terror, and without imposing a single restriction either upon the movements of healthy persons or upon the transit of their goods."

Antidotes for Strychnia.—T. Huseman has given a fresh instalment of his experiments in the antagonism of remedies, particularly of the antidotes of strychnia. The substances experimented with were: 1. Bromide of potassium in combination of chloral hydrate. This combination is found to be inferior to chloral hydrate alone. 2. Alcohol is useful in a moderate over-dose. When the quantity taken is more than one and a half times the lethal minimum, alcohol fails to neutralize its effects. The action of alcohol,

moreover, cannot be predicted with any certainty, it is influenced by idiosyncrasy far more than that of chloral hydrate. 3. Physostigmin, where the dose of strychnia only just exceeds the lethal minimum its effects may be neutralized by pure physostigmin (free from calabarin). When it is twice or three times as great, physostigmin is useless.

The practical outcome of his experiments is the recognition of chloral hydrate as being the best and safest antidote in poisoning by strychnia. During the chloral sleep the patient should be watched, and any cessation of the respiratory movements (which is very prone to occur) combatted by methodical compression of the thorax. —*London Medical Record*, Feb. 15th.

The Suture of Nerves.—Dr. Bakowiecki finds (*Gaz. Médicale de Paris*, *London Record*) that nerves after suture, are considerably hastened in their cicatrizations the reestablishment of their function. It is necessary to unite the cut nerves within twenty-four hours of their section, and to perform the operation in such a way as to prevent the ligature from passing through any structure but the neurilemma. That sutures of cat-gut must be alone employed, as they do not cause suppuration, whilst they are wholly absorbed in the wound. Sutures prevent the appearance of tetanus.

In the cases treated in this way by Eulenberg and Laudis, negative results were obtained because they passed the ligature through the substance of the nerve. The experiments performed by Dr. Bakowiecki were made upon various persons; they were one hundred in number.

The nerves severed were the sciatic, vagus, and hypoglossal. The sutures employed were cat-gut, silk and silver.

Dissection of a Male Chimpanzee.—The young male chimpanzee at the Zoölogical Garden did not long survive his companion, and is now being dissected by Professor Leidy. At a recent meeting of the Academy of Natural Sciences the results of the examination of the female (which died some weeks since) were presented, showing however, some important points of difference between the brain of that animal and the one now being studied.

Dr. Chapman reported that the brain of the animal under his examination closely resembled that of a human being, with the exception that the cerebrum did not cover the cerebellum. Dr. Leidy, on the other hand, finds that in the case of the male chimpanzee the brain of the animal more nearly resembles the human structure, and that the cerebellum is covered by the cerebrum, indicating greater intellectual power in the male. He inferred that the present was the only case on record in which an anatomical examination of a male chimpanzee had been made.

Another striking difference in the anatomy of the male and female

is a most remarkable peculiarity in the formation of the vocal organs of the male. This consists of a natural bag-pipe, which communicates with the larynx, extending to the breast and arm-pits. It is covered by powerful muscles. To produce a loud sound but a slight motion of the arms was necessary. In discovering this singular physical arrangement the Professor wrote to the Superintendent of the Zoölogical Garden to inquire if the male chimpanzee had any distinctive call or cry, to which the superintendent replied that the "voice of the male for so young an animal was simply enormous; its cry when enraged was loud, piercing and shrill." It is a well-known fact that this vocal arrangement is also found in the male gorilla, the outang-outang, and the howling monkeys of Southern Africa, whose cry can be heard for miles.—*Boston Med. and Surg. Journal*.

So?—The following we take from a leading Homœopathic journal. "Imperforate hymen 'cured' by silica, 6,000." The case in brief, was that of a young lady of 18, who had the menstrual *nixus*, but no discharge. The Homœopathic professor who reports the case, says, in italics, "*upon careful examination, the hymen was found to perfectly close the vagina.*" After thinking the matter over, and from the fact that the Miss was constipated, it struck the learned professor's mind that silica, of the 6,000 trituration [a proportion of the drug much smaller than a cubic inch would bear to a solid globe, whose diameter was so vast that it would take thousands of centuries to traverse it] was just the thing. A single dose worked so admirably that, to quote again, "at the second menstrual period thereafter the menses flowed freely, and the finger was permitted to be passed to the *os tinæ*."

Query?—We would modestly ask the "professor," if the young lady had swallowed a *whole* grain of sand, when eating a strawberry, what would have been the result? Reasoning from analogy the "arrested force" would have let loose a cata-clysmal catamenia that would have swamped the whole solar system; and words are powerless to tell how far his finger might have passed. From this fact we are mighty glad she didn't take more "sand in hers" than she did. We rather think the whole thing should be taken *cum grano sa-nd-is*.]—*St. Louis Clin. Record*.

Kumyss for Children.—Kumyss is recommended not only in the intestinal disorders of children, but also in all diseases characterized by defective nutrition; and the following rules should be observed in its administration:

In giving kumyss to children under one year of age, always empty the contents of the bottle into a pitcher, and from that into another, and so continue to pour it back and forth until all, or nearly all, the gas is eliminated—say for about ten minutes. Then take what

is necessary for one dose, and pour the remainder back into the bottle, cork and keep in a temperature between 50° and 60° Fahr. By thus always corking and placing the bottle in a cool place after taking the dose from it, it is possible to keep it for twelve hours.

It should never be warmed, sweetened or diluted under any circumstances whatever, nor should it ever be given less than two hours after the administration of any other form of milk—Dr. P. Brynberg Porter, in *New York Medical Journal*, March.

In the *Revista de Medicina y Cirujia Practicas*, published in Madrid on the 22d Sept., 1878, a remarkable case is recorded as occurring in the surgical clinic of Prof. Kreis. It was a case of normal pregnancy with death of the fœtus at the seventh month, due to a violent fall on the part of the mother. Putrefaction within the womb occurred, and fistulous tracts were formed through the cervix uteri and through the abdominal wall; when these latter formed, those through the cervix healed up. Gastrotomy was performed by Prof. Kreis twenty-seven months after conception. Some fever and signs of slight peritonitis were present for a few days; but the patient subsequently did uninterruptedly well, and a complete recovery ensued.—*Canadian Journal of Medical Science*.

How to Cough.—Dr. J. M. Fothergill says: "It must be insisted upon that the chest be well filled with air before the cough is let loose; that is, the reflex act must be inhibited by the exercise of the will, until the chest be well filled with air before the cough is let loose. Such full inspiration is effective not only in removing the source of the irritation, but it usually causes other masses of mucus and charcoal to slide from their seat, and thus to set up further cough for their removal. But, if the full inspiration plan be followed, these masses are readily and quickly expelled." Of course these directions are of use only in such coughs as are for the purpose of removing some offending matter from the air passage.—*Lancet and Clinic*, from *Phil. Med. Times*.

Capsicum in Delirium Tremens.—The decided value of capsicum in the treatment of drunkenness appears to be established. Dr. Kinnean in the *London Lancet*, March, 1862, drew the attention of the profession to its use, and, since that date, many other observers have confirmed the truth of his statements relative to its efficacy in the cure of delirium tremens. In a recent article in the *Lancet* by Mr. Bingham Crowther he reports two cases in which large doses of tincture of capsicum rapidly restored the patients after other remedies had failed, and where the symptoms were very severe. In one case there were pneumonic trouble, which seemed to be benefited by the treatment.

Sufferings in Brazil.—The Surgeon-General, Marine Hospital Service, says, in his last report: The U. S. Consul at Pernambuco reports that in the interior of the province of Ceará a severe drought has prevailed for two years and a half, no rain having fallen during that time; the excessive dryness caused the disappearance of the innumerable small streams which furnished the whole water supply of the country, the consequent death of nearly all the cattle and sheep, and the complete destruction of the usual means of subsistence of the population, which is wholly an agricultural one. The people have been reduced to subsistence on roots, cotton pods, reptiles, and any living or dead thing that would sustain life, some resorting even to cannibalism. In the winter of 1878 small-pox appeared in epidemic form, and caused a frightful mortality among the starving people. A general flight of the people from the interior to the coast cities occurred. The normal population of 25,000 in Fortaleza, the capital, was quickly raised to 100,000, the squares of the city being filled with thousands of unsheltered people, dying of disease and starvation. One half of the original population of the city have died of small-pox. In the new cemetery of Lagoa Funda, opened in the middle of last year, there were 60,000 interments up to January 1st. The number of burials from small-pox alone, between November 1st and January 1st, in this cemetery, were 24,470; the total interments in the city for the two months being 31,571. At Parahyba, 12,000 refugees out of 15,000 who had fled to the port, died, and similar distressing accounts are given of the other coast cities. The Consul estimates the usual population at 900,000 of whom 500,000 have died of disease and starvation. The Brazilian Government have expended \$10,000,000 for the relief of the sufferers. At last advices slight rains had fallen in the interior, and it is believed that the worst period of the scourge has been passed.

The Temperature of the Brain in Insanity.—Margaglino in conjunction with Sepilli made some investigations into the temperature of the brain in 115 insane patients at the asylum of Reggio with the following conclusions:

In all cases except those of dementia and lipomania the average temperature is higher than normal.

In insane as well as in sane individuals the temperature of the occipital region is higher than that of any other part of the head. The temperature of the frontal lobes is like that of the parietal lobes in lipomania agitata, dementia agitata, imbecility and idiocy; it is higher in mania and simple dementia, and it is lower in progressive paralysis.

In all forms of insanity the temperature of the halves of the head alike except in congenital brain lesions where the temperature of the right half of the head is higher than that of the left.

These conclusions coincide with the pathological condition en-

countered on autopsy, inasmuch as in mania, in progressive paralysis, the parietal regions are the seat of the disease.

As control experiments the two Italian experimenters made temperature measurements of the brain, also on 20 healthy persons and got higher figures than Broca and Grey—*La Salute*, No. 19, 1878.—*Cincinnati Lancet and Clinic*.

The Development of the Graafian Follicles during Pregnancy.—Contrary to the opinion then prevailing, and contrary to that now generally taught for example, Barnes' "Diseases of Women," p. 28), the late venerable Professor of Midwifery at the Jefferson Medical College, Dr. Charles D. Meigs, used to teach that the development of the Graafian follicles continued uninterruptedly during pregnancy. This opinion has been confirmed by some researches and post-mortems made by Dr. Slaviansky, which we find in the *Med. Centralzeitung*, October. 30. A woman of twenty-four years, who died suddenly in the third month of pregnancy, displayed follicles on the point of bursting, and recent corporalutes. This may be said to decide a question of considerable physiological interest.—*Canadian Journal of Medical Science*.

Pilocarpin in Children's Diseases.—The experience of Prof. Demme, of Berne, (*London Practitioner*, *London Medical Record*, February 15th, 1875), pilocarpin is an efficacious diaphoretic and sialagogue in the treatment of certain diseases of young children. In appropriate doses it is well borne by the youngest patients. Unpleasant symptoms are of very rare occurrence, and can probably be altogether prevented by administering small doses of brandy before the (hypodermic) injection. The cases for which pilocarpin is especially suitable are the parenchymatous inflammations of the kidney, with dropsy following scarlatina and diphtheria. It is uncertain whether pilocarpin has any direct influence upon the action of the heart. The age of the patients vary from nine months to twelve years; the dose from five milligrammes (1-13th grain) to two centigrammes (1-3d grain).

Jaborandi in Puerperal Albuminuria.—In a paper read before the *New York Medical Society*, Dr. Fordyce Barker after narrating the course of seven cases treated with this drug concludes: "The utility of jaborandi in the treatment of puerperal albuminuria is more than doubtful, and after puerperal convulsions, its depressing influence and action, which is continuous and exhausting, prevents sleep and the repose of the nervous system, and thus renders it in these cases an unsafe and dangerous remedy."

To Kill Trichinæ.—Experiments recently performed have shown that a very little sulphurous acid added to the brine in which pork is pickling will kill all the trichinæ without damaging the pork.

Supra-Pubic Lithotomy—Death.—Dr. E. L. Keyes at the last meeting of the New York Pathological Society, presented specimens of stone which he had removed from three patients by the high operation. In each case death occurred. One of the cases, he thinks, was favorable for the lateral operation, but the other two he thinks would not have done well under any operation. Dr. Keyes thinks that the only advantage that supra-pubic lithotomy has over the lateral, is in the rapidity of the operation.

Lithotripsy: Bigelow's Operation: Death.—Dr. R. F. Weir, at the last meeting of the New York Pathological Society, presented fragments of a stone removed by Bigelow's operation. The patient had a chill and fever on the eighth day, and on the ninth day diarrhœa. The autopsy showed multiple abscess of the right kidney.—[We should say not a favorable case for lithotomy either.—Eds.]

So far, in New York, thirty-four cases have been operated on by Bigelow's method, with three deaths. Condensed from *New York Med. Journal*.

The Diagnosis of Drunkenness.—Dr. Macewen, of Glasgow, has formulated the following rule: Any insensible person, who, having been left undisturbed for from ten to twenty or thirty minutes, has contracted pupils, which dilate when he is shaken, without any return to consciousness, and then contract again, is suffering from alcoholic coma. If this test holds good, it will tend to decrease the number of sensational editorials, etc., under the caption: "Drunk or Dying," which so frequently appear in the English papers.—"*Proceedings*," *King's County*.

A New Rival of Digitalis.—The result of some experiments performed by Professor Botkins, published in the *St. Petersburger Med. Woch.*, together with clinical observation with *Adonis vernalis*, lead to the supposition that this drug contains a poison analogous to digitalis, which strongly affects the heart, and that some cases of compensatory trouble the action of the heart could be restored by it, even if digitalis had proved unsuccessful.

A New Method of Administering Cod-Liver Oil.—A spoonful of cod-liver oil is well beaten up with the yolk of an egg and a few drops of peppermint, to which half a tumbler of water sweetened with sugar is added. The color of this mixture is white, it neither smells nor tastes like cod-liver oil, and can be easily taken by the patient.—*Journal des Sagesfemmes, London Medical Record*.

The Dermatophone recently invented by Professor Hunter, of Griefswald, is the latest outgrowth of Edison series of instruments.

It consists of a flexible stethoscope with a thin caoutchouc membrane stretched over the end applied to the skin, and a perforated horn plug to fit the ear and close the meatus as nearly as possible. By this means he is enabled to hear the capillary murmur on the cheeks and the finger-tips.—*Med. Times and Gazette*.

Forceps in Different Breech Deliveries.—Prof. A. J. Miles, M. D., (*Am. Jour. Obstet.*, January, 1879), figures a pair of forceps devised by him for delivery by the breech. These forceps adapt themselves to the anatomical construction of the pelvis of the child, will not, when properly adjusted, slip, or produce undue pressure on the abdomen of the child. He prefers them to the fillet or the blunt hook.

Nutritive Enemata—Dr. Heine prefers for rectal alimentation; the use of Leube's formula, of two-thirds beef and one-third fresh pig's pancreas. The prepared mixture is passed high up the bowels by means of Dr. Beirne's tube aided by gravitation, instead of being injected as ordinarily, and then the large intestine is enabled to retain and digest much of the preparation.—*London Medical Record*.

Tobacco on the Teeth.—M. Maurel, in *Journal de Thérap.*, writing of the substances which damage the teeth says that tobacco, whether used in chewing or smoking does not injure the teeth beyond causing their discoloration.

[This is evidently a mistake, of which M. Maurel would be satisfied if he had the opportunity of examining the badly worn teeth so common among American chewers].

Hepatic Abscess.—Dr. Walter Coles reviews in the February number of the *Richmond and Louisville Medical Journal* a report by Dr. Wm. A. Hammond, of New York, on the treatment of hepatic abscess. It is well worth reading for the information contained as well as for the skill with which he analyzes and successfully combats some of Dr. Hammond's statements.

The Board of Medical Examiners will meet on Monday, May 19th, to examine candidates for licensure, thereby enabling those who are licensed and afterwards join the Society to participate in the meeting.

H. T. BAHNSON, M. D.,

Salem, N. C.

Secretary Board of Medical Examiners.

OBITUARY.

SURGEON-GENERAL J. M. WOODWORTH, M. D.

Extracted from Circular Letter of the Secretary of the Treasury.

"Surgeon-General Woodworth whose death occurred in Washington city March 14th, 1879, was born in Chemung county, New York, August 15th, 1837. He entered the service of the United States as an Acting Assistant Surgeon of the Army in 1862; was soon after appointed Assistant Surgeon of Volunteers; and in 1863 promoted to Surgeon, and afterwards Medical Inspector and Medical Director of the Army of the Tennessee. He was previous to his leaving the army breveted a Lieutenant-Colonel. His connection with the Marine Hospital Service dates from the reorganization in 1871, and the history of the service since that date is mainly identified with his own, for the work of reorganization has been solely intrusted to him since its commencement."

TO OUR READERS.

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BOOKS AND PERIODICALS RECEIVED.

Notes on Baptisia. By William M. Canby, Wilmington, Del. Rhode Island. Twenty-Fifth Registration Report. 1878. Pp. 116.

Report of the Health Officer of the city of Rochester, New York, 1877 and 1878.

In Memoriam. Dr. Landon R. Longworth. Eulogy pronounced by F. Forchheimer, M. D.

Proceedings of the Board of Trustees of the University of the South. A. D. 1878.

Annual Report of the Board of Health of the State of Louisiana to the General Assembly for the year 1878. Session of '79. Pp. 192.

Excerpta from the Annual Report to the Board of Health for 1878. By Joseph Holt, M. D. Sanitary Inspector of the Fourth District of New Orleans.

Studies from the Biological Laboratory. Sessions 1877 and 1878. Johns Hopkins University. Edited by H. Newell Martin, M. A., B. S. Professor of Biology.

The Therapeutic Value of Ergot. By J. W. Compton, M. D. Professor Materia Medica and Therapeutics. Reprint from the Detroit Lancet. Pp. 8.

Additional Facts and Information in Relation to the Catalpa Tree. *Catalpa Bignonioides* and its Variety (?) *Speciosa*. E. E. Barney. Dayton, Ohio.

Botanical Contributions. By Asa Gray. Extracted from the Proceedings of the Am. Acad. of Arts and Sciences. With two illustrations by Spragne; one of *Arctomecon Californicum*, the other of *Canbya Candida*. Pp. 84.

Biennial Report of the North Carolina Institution for the Deaf and Dumb and the Blind. From January 1st 1877 to January 1st 1879. 32d and 33d Sessions. Published by the Board of Trustees. From Mr. H. A. Gudger, Principal.

Handbook of North Carolina Embracing Historical and Physiological Sketches of the State. With Statistical and other information relating to its Industries, Resources and Political Condition. By L. L. Polk, Commissioner [of Agriculture.]

A case of Inflammatory Fungoid Neoplasm. By Louis A. Duhring, M. D. Professor of Skin Diseases in the Hospital of the University of Pennsylvania. Reprinted from the Archives of Dermatology. With illustrations. Pp. 28. J. B. Lippincott & Co. Philadelphia, Pa.

Evolution and Human Anatomy. By Stanford E. Chaillé A. M., M. D. Professor of Physiology and Pathological Anatomy, Medical Department University, New Orleans. Reprint from the Medical Record, Feb. 22d, 1879. Pp. 21.

By the same Author. History of the Laws Regulating the Practice of Medicine, etc., in Louisiana. 1808 to 1878. Reprint from New Orleans Medical and Surgical Journal, June, 1878.

To Physicians.

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NORTH CAROLINA MEDICAL JOURNAL.

M. J. DeROSSET, M. D., }
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ORIGINAL COMMUNICATIONS.

SOMETHING ABOUT DRINKING WATERS.

By ALBERT R. LEDOUX, Ph. D., Chapel Hill, N. C.

Every man must have his vocation ; every one his specialty. We are all dependent on others, whenever problems outside of our own line of business or research demand a solution.

Recognizing these truths, every man should feel that he owes a duty to his fellows, and that his motto should not only be "live and let live," but also "live and help live."

No science has done more *gratuitously*, for the advancement of the human race, than medicine.

No other vocation *gives away* so much of invention, research, time, labor, money, to make men stronger, happier, better.

Following out her lofty aims, medicine has called to her aid sister sciences, and united with them to build up new safeguards around humanity.

Thus, for example, medicine has united with chemistry and architecture to form "Sanitary Science," with all its details of

work and endeavor for the health of nations, towns, villages and homes.

No question which sanitary science discusses and investigates, is more important than the relation of drinking water to health.

The one grand cry of humanity—yes, of the brute creation, and of the vegetable world too,—“is give me something to eat and drink.” Dame Nature furnishes about two hundred and fifty articles to man for food, giving him the greatest variety, from which to choose, when hungry; but, when he would slake his material thirst, she offers simply water. It is the most abundant thing upon earth, as every school-boy knows.

Over two-thirds of our globe is covered with this wonderful liquid—while, on the solid ground, there are comparatively few localities, where water will not be struck on digging. In fact, our soil is one vast sponge, holding in its porous mass—water.

The air around holds water in suspension; the trees and lesser plants hold water in every leaf and branch—while fruits are mainly—water.

Seventy-five of every one hundred pounds of potatoes are—water; one acre of potatoes requires, at the very lowest estimate, twenty tons of water, during the growing season, to bring tops and roots to a perfect healthy maturity.*

Eighty per cent. of apples, pears, peaches, &c., is—water.

Eighty-six per cent. of milk is—water. We ourselves are, by weight, mainly—water.

A body weighing one hundred and twenty pounds, if dried till free from all its liquids, would weigh but twenty pounds—while three-fourths, by weight, of the human body is water. If we were to make a box 16 inches square and the same deep, (a cube of 16 inches,) with walls one inch thick, and fill it with water, the ratio of water to wood would very nearly represent the relative proportions of solid and liquid constituents of the human body, both by weight and volume.

Having taking a hasty glance at the magnitude of the demand of organized nature for water, we will pursue it no farther in a

*Supposing the rain-fall to average thirty-six inches per annum, there is a fall of three cubic feet on every square foot of ground, or an acre receives twenty thousand nine hundred and eight (20,908) gallons of water per year.

general way, but confine ourselves to *man's* particular need and the character and sources of supply.

To obtain the quantity, which he requires to meet the demands of his system, a man consumes every year, about three-fourths of a ton, or fifteen hundred pounds of water. Some of this supply comes, of course, from waste and vegetables, which are, on an average, three-fourths water, and from bread, which will average 45 per cent. A certain quantity is also generated in the combustion of food, but the greater proportion is taken in drink.

It will suffice to mention one or two of the uses of this water, which plays such an important part in our system. It gives a medium of circulation—of transportation—to solid, inert substances.

As the great oceans and mighty rivers of earth bear upon their bosoms noble ships, freighted with the wealth of nations, so in the blood the precious corpuscles are coursing, borne on in their life-giving, life-sustaining mission, by the water in which they float. So in the milk and other animal creation, water bears safely a freight of valuable, solid particles, or carries off useless solids in solution. It gives pliancy to muscle and flesh, and serves many another purpose in the economy of the human system.

It can be seen from the outlines we have just given, without the need of a further demonstration, that the *quality* of drinking-water is of the utmost importance.

It is strange, but true, that man needs to be protected, even by force, against himself, and this is well exemplified in the matter of drinking-water.

One of the first and last labors of every State or city Board of Health is to prevent men from poisoning their drinking-water or allowing others to do it for them, and to keep them from using it, when it is thus poisoned.

Those who live in the country are often prone to thank God that they live beyond the reach of sewer gases and other poisonous contaminations of city wells; but, before being too confident, let us ask ourselves the question, "are the people of our villages, or on our farms and plantations, entirely free from typhoid fever, diphtheria and other diseases, whose origin is so *often* traced to impure drinking-water."

But what is pure water? It may surprise some of our readers

when we state that *absolutely pure water*, used constantly, is unhealthy !

Distilled water, taken copiously, will soon make one sick. A number of diseases which prevail in some mountain countries are ascribed by many to drinking comparatively pure snow water. Another surprise for some, perhaps ! We consider water tasteless, but *had* it no taste we would loathe it ! But we will return to this hereafter.

There are two tasteless, odorless, colorless gases called respectively, "Hydrogen" and "Oxygen." If we mix them in a vessel and apply a match, there is instantly a powerful explosion, heat is generated and there is formed—water. The two strange, invisible gases have combined and formed the well-known liquid. Whenever a substance which contains hydrogen, like wood, paper, starch, sugar, &c., burns, it forms water with oxygen of the air. In fact, these two gases are always ready, on the slightest provocation to unite. Rain, or melted snow, approaches nearest to chemically pure water, but all wells, springs, rivers and seas contain dissolved substances, in greater or less degree. Water being the most universal solvent; whenever it comes in contact with the earth, dissolves the soluble constituents of the soil through which it flows, and hence it is that on analyzing water we find solid substances in solution. Streams in their onward course take up more and more matter; rivers flow into the ocean, and in the ocean the maximum amount of solid matter in solution is found. There the rivers have been carrying their load for centuries and leaving it, since water evaporating carries nothing away with it. Besides these solid bodies some gases are dissolved by water. Many waters contain, besides mineral and gaseous bodies, organic matter—living animal and vegetable organisms or decayed substances.

Having noticed the different classes of foreign ingredients in water, let us study them a little more closely, considering their effects and influences on the human system.

Mineral Ingredients.—These are the substances most frequently met with in waters, indeed, organic matter may be said to be rare in comparison to the wide distribution of the inorganic solids. An enumeration will reveal many things with which we are more or less familiar. The most common solids in well, river and sea

waters, are lime, magnesia, soda, potash, iron, chlorine, sulphurous acid, silica, phosphoric acid and alumina.

An analysis of an average soil will reveal the presence of all of these substances, so that it is very easy to understand how they got into the water. If we arrange some of them in another way, grouping some together, we will recognize many things common in medicine or every day life. Thus we have

Chloride of sodium or common salt.

Sulphate of soda or Glauber's salt.

Sulphate of magnesia or epsom salt.

Sulphate of lime or plaster.

Carbonate of lime or limestone.

Carbonate of soda or common "soda."

The effect upon the system of each one of these substances, or combination of them, when occurring in water is the same as when given in ordinary prescriptions, but there is a point beyond which chemistry has not penetrated ; for instance, a glass of some mineral waters, containing but a few grains of solid matter in solution will often produce a quicker and more powerful effect when taken than twice the amount of the solid constituents, shown to be present by analysis; prepared artificially by the apothecary.

The reason of the efficacy of some mineral waters may be in unrecognized combustion of known elements or the presence of substances as yet beyond the power of chemistry to detect.

Four of these common substances mentioned above have a characteristic taste, and as they are all found in nearly every well, it follows that these waters must have *some* taste. This, as already stated, is a fact. We, who are accustomed by constant use to one particular well, fail to recognize any taste at all, while a stranger will often detect it at once. Distilled pure water tastes "flat" and very disagreeable to us, because we miss the salts and gases, which distillation has removed.

A chemist will often work in an atmosphere filled with noxious and powerfully smelling gases, but will not be able to perceive them, though a stranger would not only notice them at once, but with great difficulty endure them.

The mineral constituents in well or river water will average five to thirty grains per gallon ; while they vary in amount, as shown

from analysis from one-twentieth to twenty thousand grains per gallon.*

Waters containing much lime or magnesia, are called "hard," and are the only kind found in some sections of our country.

Besides the common mineral constituents of water, there are others, which have been occasionally detected, such as arsenic, barium, strontium, lithium, bromine, iodine, fluorine, zinc, copper, lead, silver, antimony, nickel, cobalt, &c., &c. It will be noticed that many of these are poisonous, but nature suffers their presence, in minute quantities only,—except in rare instances,—while the localities having metallic elements in their waters are few and chiefly among mines and ore-beds. These substances rarely occur in our wells and springs and hence they need no particular consideration here, though, if present, only analysis is a safe means of detection.

Where water contains a large amount of mineral matter, it has a decided effect upon the digestive organs, and, after shorter or longer use, tends to produce diseases, such as dyspepsia, constipation, gravel, &c., &c. But waters with a large enough amount of mineral matter to give them a decided taste, are called "mineral waters" and are used rather as medicine, than as a habitual means of slaking thirst.

The Common Gases dissolved or imprisoned by well and spring water are carbonic acid, sulphuretted hydrogen and the components of air—oxygen and nitrogen. Of these only one is dangerous—sulphuretted hydrogen—and that is easily detected by its smell, resembling that of spoiled eggs. It gives the characteristic odor to "sulphur" waters. Carbonic acid and air give to waters their sparkling quality—the former being often artificially introduced, as in "soda-water," &c.

The Organic Matter in well, spring, and river water may be dead or living, and we will consider the two classes separately.

Lifeless Organic Substances.—These may be the remains of organized bodies and plants once living in the water, or animal and veg-

*In the river Losa in Sweden, and the Dead Sea, respectively; the latter containing four hundred thousand times more solid matter than the former. Ocean water has about 2,500 grains per gallon.

etable matter from some outside source. The latter is the most frequent source of organic impurity.

In localities where heat and marshes abound, water may often be colored by organic acids and other substances which dissolve, and yet not be appreciably unhealthy. Such waters are common in some countries, and present dangerous *possibilities*, should fermentation and putrefaction at any time set in. Decaying fish and animals, leaves, &c., &c., form the ordinary and accidental organic impurities of water. These are unhealthy not only in themselves, but especially because they offer to the germs of disease or pestilence a harbor and sustenance.

As was stated in the early part of the paper, men must be protected from themselves and especially against water of their own poisoning. Nature's strivings are constantly to make clean the unclean; to dissipate the noxious and to destroy the hurtful, but man by breaking nature's laws, brings ten fold vengeance on his head. The most dangerous poisons in well water are the drainings of sewers, sinks, yards and privies, and the refuse from towns.

These organic, poisonous matters ooze through the soil into wells and springs, and as before said, *may* not show any bad effect for sometime, but sooner or later disease and death will surely visit the unsuspecting household and the physician's aid be sought in vain, for with every draught of water which passes the fevered lips, the sufferer imbibes new poison and hastens the inevitable end. Moreover, the germs of many contagious diseases, which feed on filth and multiply in foul water, are nurtured and preserved in warm climates through winter weather, by the equable temperature of wells and cisterns, and are ready to start anew on their errand of death, when a favorable moment arrives.

The city of Wilmington is no doubt above the general average of Southern cities in sanitary condition, but what a picture the February number of the JOURNAL showed us. Think of it!

"There was one well two feet from the privy, two wells four feet from the privy, thirty-three wells ten feet from the privy, two hundred and twenty wells from twenty to thirty feet!"

The soil upon which Wilmington is located being "nearly as white as the sea-shore and as permeable!!"

It is not our purpose at present to depict the danger of such neglect of sanitary precautions, so much as to point to a remedy.

1st. *We say unhesitatingly, if a well shows signs of contamination by sewerage or other like matter, fill it up!*

2d. *Build all sinks and privies as far as possible from the well.*

Through permeable soils and strata, dangerous liquids may ooze to a distance of many feet. We know of cases where wells had been used for years with no bad effect, when suddenly disease and death appeared. The poison, though slow in its course, had finally reached the well and a chemical analysis revealed contamination from privies thirty feet or more distant.

The living organisms which are found in water are, some of them injurious; some beneficial.

Under favorable conditions of light, warmth, &c., countless millions of living things will spring into life in any water; the more impure, the more abundant they will be. If the water is alkaline they will be animalculæ or infusoria: if acid, fungi, algæ, &c.

They are never found in fresh rain water, but abundant in nearly every cistern. The office of infusoria is in water, that of the buzzard on land; they are scavengers, and purify the liquid by feeding upon the decaying matters it contains. But the microscope reveals to us in water, contaminated with sewerage, for instance, minute germs capable of motion, which, as in the case of the infusoria, live on the organic matter, but are believed to accompany if not to cause many forms of contagious disease, filling even the air, in times of epidemic.

To detect many of these impurities and dangers, chemical analysis and the microscope are sometimes indispensable, but the following rules may awaken suspicion and lead to a scientific investigation of the quality of drinking water in some cases.

A good drinking water is perfectly colorless and transparent, without smell or noticeable taste and agreeable to the palate. It should not lose its clearness in boiling and should leave a very small residue on evaporation.

Where impurities are suspected, an analysis should be obtained if possible, if not, filtering through charcoal or sand, or boiling will often either remove or render harmless various dangerous ingredients.

Our State Board of Health have done the people of Wilmington

and of the whole State a great service in directing attention to this subject. May they go on and prove a mighty blessing to the Old North State. Let us give them the aid and encouragement they deserve.

SUBSTITUTE FOR COD-LIVER OIL.

An excellent substitute [for cod-liver oil] and one often better tolerated, is the fat of pork properly prepared. I direct a thick portion of the rib piece, free from lean, to be selected and allowed to remain in soak for thirty-six hours before being boiled, the water being frequently changed to get rid of the salt. It should be boiled slowly, and thoroughly cooked, and while boiling, the water must be changed several times by pouring it off, and fresh water nearly boiling substituted. It is to be eaten cold in the form of a sandwich made from stale bread, and both should be cut as thin as possible. It is very nutritious, but it should only be given in small quantities until a taste for it is acquired. It is the most concentrated form in which food can be taken in the same bulk, and I have frequently seen it retained when the stomach was so irritable that other substances would be rejected. For this condition of the stomach it may be rubbed up thoroughly in a porcelain mortar and then given in minute quantities at a time. It is made more palatable by the addition of a little table salt, and this will be tolerated, while the salt used for preserving the meat having become rancid, if not soaked out, will produce disturbance even in a healthy stomach. I, some years ago, saved the lives of two of my children, who, on different occasions were suffering from cholera infantum, by feeding them entirely on the fat of pork prepared in the way I have described, and, while nothing else would be retained in their stomachs, not only was it retained, but it also had a beneficial effect on the diarrhœa.—*Emmett's Prin. and Prac. of Gynæcology*, p. 102.

A surgeon in London was recently tried and convicted of manslaughter, for not heeding numerous calls from a patient who afterwards died apparently from this neglect.

COUNTRY CLINQUES.

VI—A CASE OF OPIUM POISONING. (?)

BY A NORTH CAROLINA PHYSICIAN.

Katie L., colored, æt. 40, an expert and industrious laundress, but a woman of lewd character, has been under observation for several years. A reliable history of her previous life I cannot give. According to her own account, she had suffered almost every ill to which flesh is heir, excepting gonorrhœa and syphilis. There was a marked systolic murmur over the base of the heart, which, since she showed no other symptom of anæmia, I considered indicative of structural lesion; but as will be seen, I was probably mistaken in this opinion.

The most interesting feature in her case, and for this I most often prescribed, was the concurrence of epileptiform convulsions with every menstrual epoch. For six years has this occurred with almost uniform regularity, an occasional intermission only, having been brought about as the result of medical treatment.

En passant, a word may here be said against the too generally accepted idea that albumen found in the urine of puerperal women, after convulsions, is an indication of a previously existing albuminuria. On five successive occasions, I examined the urine passed by this woman before the occurrence of convulsions, and within a few hours of the attack.

There was not a trace of Albumen. Invariably I found the urine which was passed *after* the epileptic seizure to be *highly albuminous*. It gradually resumed its normal character in from two to six days, in a direct ratio to the severity of the attack. Again, the severity of the convulsions maintained an inverse proportion to the quantity of the menstrual discharge. When this was profuse the attack was light, when scanty, more severe. The convulsions generally appeared just before, or at the beginning of the monthly flow. Latterly their occurrence has been somewhat irregular, as has also been the case with the menses. Elaterium in $\frac{1}{4}$ grain doses, frequently cut them short, but exhausted the patient to such an extent that it had to be discontinued. For several months past I have been controlling the convulsions with $\frac{1}{2}$ grain doses of morphia per

orem, repeating every hour until relieved. She has frequently taken two, and a few weeks ago took three such doses, without exhibiting symptoms of marked narcosis.

At 9 A. M., on February 25th, I was called to see her. She had had four most violent convulsions during the previous night, and was complaining of terrible pain in the head, with nausea and vomiting. She expressed the conviction that another convulsion was imminent, and begged for relief. I immediately and without hesitation introduced $\frac{1}{2}$ grain of hydrochlorate of morphia under the skin of the forearm, and having other engagements, left her. At 12 M., I was sent for, and informed that shortly after my departure, she sank into a deep sleep with stertorous breathing. All efforts to rouse her, had failed. On examination, she presented the following symptoms: There was total insensibility, except a slight twitching of the eye-lids when the conjunctiva was touched. The pupils were contracted to the size of a pin's head. Respiration was shallow, irregular and interrupted, and numbered ten to twelve per minute. The extremities were cool and the face somewhat cyanosed. The pulse beat regularly, though feebly, 110 per minute. To my surprise, auscultation showed the *absence* of all adventitious sounds over the region of the heart.

Despite the gravity of the symptoms, I felt only a slight degree of alarm, when I considered the improbability of so small a dose of morphia proving fatal. Being compelled to leave, I merely directed the attendants to keep up circulation, by friction of the extremities. At 3 P. M., the condition of patient was unchanged, except that the extremities were more difficult to keep warm. Temperature in the axilla was 97.4°. The breathing was not at all better, and insensibility was, if possible, even more profound than at my previous visit. I injected 1-20th grain sulph. of atropia under the skin of the forearm, and during the next hour I made frequent applications of a moderately strong galvano-faradic current, one pole being placed in the epigastrium and moved along the insertion of the diaphragm, while the other was pressed upon the middle of the neck just behind the sterno-mastoid muscle. The heart's beat was temporarily strengthened, and respiration slightly increased in depth and frequency by each application. At 4 P. M., I injected 1-12th grain of atropia, continuing the use of electricity. At 5 P. M., the

circulation appeared to be failing, the pulse being decidedly weaker and the extremities cold. Respiration was about 15 per minute; irregular and shallow. The pupils were still obstinately contracted. I now injected 1-6th grain of atropia and placed a bottle of hot water under each arm; and a large jug to the feet; still employing electricity at intervals. At 6 P. M., the change in my patient was evidently for the worse. To be sure the body was warm (100° F.); but the pulse at the wrist could only irregularly be felt. The heart contracted feebly but regularly 115 times per minute. Respiration was more shallow, although now 18 to 20 per minute. The pupils were unchanged, and there was absolute insensibility of the conjunctiva. I now injected $\frac{1}{4}$ grain of atropia. In twenty minutes the effect of this dose was perceptible. The pupils were widely dilated, and respiration increased to 30 per minute; but alas, the heart, although it contracted 130 to 140 times per minute, failed to convey even the slightest impulse to the wrist. Cyanosis had disappeared but the insensibility continued.

During the next seven hours, I injected into the bowel $\frac{1}{2}$ oz. of whiskey every half hour. All of it was retained. During this time, the patient occasionally made an unconscious effort to swallow the mucus which accumulated in the fauces, and succeeded so far as to diminish temporarily the rattling and gurgling which now accompanied every respiration. Several times after this effort at swallowing, respiration had to be stimulated by the electrical current. At midnight there was a slight convulsion, after recovery from which the patient again lapsed into the same condition. Gradually there was an increase in the rate both of circulation and respiration, until at 4 A. M., the heart beat 150, and the breathing was 36 per minute. There was no diastole, but the heart's contraction was steadily becoming more feeble and imperfect. The pupils were still widely dilated, the extremities warm, and the temperature 101°. Fifteen minutes later the heart ceased to beat, and death supervened without a struggle.

For my own sake, as well as for the good of the profession, I invite the most rigid criticism of the above report. The case in many ways is both interesting and instructive. Was this a case of opium poisoning? The symptoms appear to answer this question in the affirmative. I have so frequently given a similar, and

even a larger dose in pressing emergencies, without the least unpleasant effect, that I find it difficult to realize the fact that this patient was fatally poisoned by $\frac{1}{2}$ grain of morphia. Such an unlooked for result has given a terrible shock to my confidence in the safety of large doses of morphia under any circumstances. The heart lesion of it before existed, evidently did not influence the result, as all signs of it were gone when I examined; three hours after the administration of the morphia, and they were not reproduced, even under the stimulation of electricity, atropia and whiskey.

Did I give too little atropia? Three doses of 1-12th grain each, sufficed to counteract the poisonous influence of 1½ ozs. tinct. opii; in a case which presented much graver symptoms of poisoning, (vide pp. 65 and 66 N. C. MED. JOUR., Feb., 1879). Was I too slow in administering the antidote? In the present case the use of atropia was commenced six hours after the morphia was exhibited, —in the case above cited five hours elapsed before any atropia was given. In the case I previously reported, an aggregate of $\frac{1}{2}$ grain was given within seven hours after the opiate was taken, in the present case $\frac{1}{2}$ grain within eight hours. Did I give too much atropia? At a single dose, Dr. Fothergill gave 1 grain in a similar case, and the patient recovered.* (*Antagonism of Medicines*, p. 133). Should I have given digitalis or strychnia hypodermically to further stimulate the heart? That poor organ appeared to be doing its best, and to tell the truth, I felt that I had had enough of hypodermic medication for one day, and felt unwilling to risk anything more, after being so disappointed in my expectation of relief from atropia. I am open to conviction upon any one or all of the questions I have propounded.

In the light of our present knowledge of laceration of the cervix uteri, Dr. Whitehead's article on "Hypertrophic Elongation of the Cervix Uteri" (Trans. N. C. Medical Society, 1875, p. 90), has peculiar significance.

*N. C. Medical Journal, Vol. 1, p. 177.

LARYNGO-TRACHEOTOMY.

By CHARLES DUFFY, SR., M. D., Catherine Lake, N. C.

Read before the Onslow County Medical Society, September, 1878.

Gentlemen of the Onslow County Medical Society:—

I was written to sometime ago, by a member of the State Medical Society, asking my views in regard to operating on the wind-pipe. My experience in such operation has been very limited; six times being the maximum of my labors in that direction. My first was a failure, done for the relief of cynanche trachealis, the operation being performed too late.

The other five cases succeeded admirably; four of the patients ranging from eight months to three years old, the other a woman of middle age. The first of these cases was operated on for the removal of a watermelon seed. The child was less than 2½ years old, and was very fat, so much so that the depth from the surface, would seem to forbid approach to the external surface of the trachea, still less to the internal, but by patience and perseverance these difficulties were both overcome, and respiration rendered comparatively easy. The next idea, was to get out the seed, and one attempt after another was made to no purpose, the wound inclined to close at the same time. I next lengthened the incision, and the sides of the wound were well drawn apart. My next step was to trim off the sides or edges of the cartilages; this being done, gave the seed a fine opportunity to present itself, and the child was placed in a cradle and diligently watched, with orders to take him in the arms and walk about with him, in case of difficulty of breathing coming on, which had to be done from time to time. The seed was expelled through the aperture to our great joy and gratification, several hours after the last step of the operation. The child was a son of Mr. Thomas Holland, of this county. He grew to adult age, and was killed by a horse running away.

From this case I learned that the removal of foreign substances by forceps or other instruments, except they are metallic substances is seldom necessary, there would be much more difficulty in retaining them or preventing their escape. As soon as the windpipe is cut into there is a rush of wind that follows, that moves the substance by the double ability or means of respiration, caused or provided by

the operation, and the next we know the substance is expelled. Certain it is, it is not going to stay there, if there is room for its escape and the patient is rightly attended to. When certain that all has come away, apply adhesive plaster drawing the parts together, a stitch or two might be necessary in some cases, it soon gets well.

My next case was the woman alluded to, the wife of Mr. Amos Wooten, of New Hanover county. A piece of beef gristle got into the wrong passage. After several spasms, and vain attempts to get it out she sent for me. I got to her as soon as possible—the distance being sixteen or seventeen miles. On enquiry I learned the particulars of her case. I found her composed. I told her it might not be in the windpipe, and we had better be certain about it. I passed a probang down the œsophagus and found that it was not there. After waiting a little longer, she had a violent spasm that hurried and increased her determination to have it out. So violent was the spasm, that it created doubts on her mind as to her chances of living, or of being able to bear up under the operation. She next turned her head toward me and remarked that she was ready. I had no medical assistant with me. I operated without chloroform—the woman fainted. There was camphorated spirits close by, and I sprinkled it heavily and forcibly in her face and over her chest, and rubbed some in her mouth. She revives with a vim and sends the gristle forcibly, not only out of her mouth, but nearly out of doors, rejoicing all hands around.

I applied sticking plaster and left; saw her in a few days; she was well.

My next operation was on the child of Mr. Enoch Foy, who had the misfortune to get a watermelon seed in his windpipe. The usual symptoms occurring, he came on with his little boy and had him relieved—the seed coming out several hours after the operation.

The next was a child of Mr. Marshall, (another fine boy), another case of watermelon seed, which was operated on with like success.

My last case was a child 8 or 9 months old, a very pretty and fine little girl, the daughter of a Mr. Padjet of this county. She had been playing with an ear of corn, given to amuse her; some of the grains coming off and one and a half getting into the windpipe, as shown by the sequel. She was operated on, assisted by Drs. Cox and Nicholson. The foreign substance did not come out as soon

after the operation as the other cases. The wound was not kept open by the attendants, and in consequence I had to re-visit, reöpen and somewhat enlarge the incision which was attended with the usual good results. The child was very fat, and the space for operating in so young a child, was necessarily very limited. One grain of corn and the part of another was expelled. I will next give my "modus operandi," or rather my imperfect manner of operating.

The patient being laid on a suitable table, with the chest elevated, by placing a pillow or folds of cloth underneath. The head is next laid back neatly observing the direction of the mesial line strictly, and throughout the operation. The instruments previously got ready, and those which I prefer, are a scalpel with a sharp handle, a director and probe, two bistouries, one sharp and the other button pointed, a forceps, tenacula, sponge and ligatures. But so far I have never needed the ligatures. I have always stopped any little bleeding that occurred by applying a pencil of nitrate of silver. All these ready, also a basin of cold water, standing on the right of my patient, I place the finger and thumb of my left hand, one on each side of the thyroid cartilage, and commence my first incision from its lower third if a child, and from its lower edge if an adult, for obvious reasons, namely: In the child we want room, and if necessary can enlarge the incision in that direction, with but little difficulty, the cartilage affording no resistance. In the adult we have more room, and the cartilage is often found hard, and unyielding in persons of advanced life, and it is therefore necessary when enlargement is required in the adult, to cut an additional ring or more of the trachea. I continue my incision below the cricoid cartilage, so far as one or more of the rings of the trachea. The track of the operation being now laid off, I proceed cautiously, an assistant sponging, and applying caustic, as may be necessary to arrest any little bleeding that may ensue, whilst I, with the handle of my knife, push aside any vessel likely to bleed—cricoid artery or otherwise. I next lay hold on the cellular sheath of the trachea, at the lower edge of the track of my operation, and at this point I enter with a sharp pointed bistoury, holding it close to the point, and cutting upward not more than one-eighth of an inch and withdraw it in favor of the button pointed bistoury, with which I slit

upward the windpipe, as far as the starting point of the first incision—not moving the instrument back and forth, but holding it perfectly steady, carrying it or rather pushing it, aided by the other hand from below upward, with the handle of the knife inclined downward. The operation now done, is made known by a whizzing which it is necessary to look after, and as all-important. I consider it the safety valve of the patient.

This operation may also be performed from above, downwards, with a sharp pointed bistoury, holding it not far from the point; the forefinger on the back of the knife—taking care to help the cricoid artery out of the way, which I have always been able to control when cut, by the application of nitrate of silver. The patient may be, if necessary, turned on the side to prevent blood from passing into the windpipe.

I begin close by the lower edge of the thyroid cartilage, and carry it so far as the second ring of the trachea; but in either case, whether I open upward or downward, the tenaculum can materially assist in the operation, by drawing down the tube when cutting upward, or by drawing upward when cutting downward—the hook to enter behind the knife in either case.

The use of the hook is most necessary when operating on young children. The object in pushing the knife, holding it steadily, is from knowing that it long since has been found, that an artery will give way before a knife when carried in this way that might otherwise have been cut immediately by a “see-saw” motion.

After the operation is performed, I direct the attendants to keep the opening clear of obstruction—bloody froth, &c., or anything that may make its appearance in the wound. Artificial respiration must be kept up until the foreign substance is expelled or removed. A probe or knitting needle will suffice for that purpose, one or the other must be used several times a day and night, in fact as often as needed; I use no gauze, it might get sucked to, or drawn into the opening, and thereby defeat the intent of the operation. In cases needing the use of the canula I make no reference.

I prefer laryngo-tracheotomy, sometimes denominated circo-tracheotomy, which I have been endeavoring to describe, to any other, for all ordinary purposes. We have less risk, and more room, and it is more adapted to the relief of children and might with pro-

priety be called the higher operation to distinguish it from tracheotomy, which rightly speaking is the lower operation. This would draw a distinction between the two, and it is necessary that line should be observed, and that when these operations are spoken of, we should know what importance to attach in either case, and give to either operation the degree of approbation it may deserve.

I cannot close this subject without giving the opinion of a very able anatomist regarding it, Harrisson, of Dublin. In the first place he speaks of an irregular artery, which he has seen running along the front of the trachea to the thyroid gland and cellular membranes beneath it. He had seen this so frequently in this situation, that he describes it under the name of the middle thyroid artery. "This is" he says "so common an occurrence that it should be remembered by the practitioner of tracheotomy." He further goes on to say, "in children the space for tracheotomy is very limited," and directly that "particular attention be paid to the inconsiderable portion of the trachea that can be exposed between the thyroid gland above, the arteria innominata, the left carotid artery, the remainder of the thymus gland below. The deep thyroid veins also descending to the vena innominata obscure the trachea very much, these together with the great mobility of this tube, add to the danger and difficulty of this operation." Pancoast says: "The checking of hemorrhage from the veins and arteries divided in tracheotomy requires particular attention; from six to eight ligatures are usually employed. They should be applied in general as the vessels are cut and before the opening of the trachea, as there must be blood drawn by respiration into the trachea and thereby endanger life."

These dangers constitute shoals and quicksands to the anatomist and surgeon, that has made many a one shudder at their approach. The six or eight vessels to tie, before daring to open the trachea, causes delay dangerous to life, as well as to the success of the operation, and brings into question the propriety of the operation, and sometimes the skill of the physician. In the upper operation, laryngo-tracheotomy, you can enlarge the opening upward whenever necessary, with but little risk, by cutting through the thyroid cartilage. In fact, it may be opened above or below, one or both, with but little risk; whereas in the lower operation it is almost

impossible to do so. When it becomes necessary, the safest plan is to enlarge the opening upward, as much as is practicable, and downward as little as we are able to get along with. The space taken up by the lower operation on children is very limited, and the operator must necessarily be cramped for want of room. The cervical portion of the adult trachea is laid down at from two to two and one half inches long. It is composed 18 or 20 fibro cartilages, this makes the space between each ring 1-8th of an inch. According to that measurement, allowing the 20 rings for $2\frac{1}{2}$ inches makes the space taken up by cutting three rings 3-8ths of an inch long in the adult, if no more is divided, and proportionately less in the child. We can readily understand that those operating in this region do as little cutting as possible, and although the operation so far as the outside incision, may begin at the cricoid cartilage, and terminate as at a little distance from the fossa at the top of the sternum. I have no idea that the trachea is often laid open to that extent. Pancoast directs, "that after separating the two sterno-thyroid muscles, partly with the point and partly with the handle of the knife, and finding no large vessels in the way, pushes up, or if necessary divides the isthmus of the thyroid gland." The next cutting he speaks of, is, "that of the third, fourth and fifth rings, puncturing the tube, with the point of the knife below the fifth ring." He then speaks of running the scalpel upwards with the handle inclined to the sternum, so as to avoid injuring the posterior wall of the trachea. It is easy to perceive in the practice of the present day, that this operation is done for, and best suited to the insertion of the canula, and that the opening of the third, fourth and fifth rings of the trachea can, when divided, answer by binding the canula, a much better purpose than a larger opening, which would allow it to move about, thereby incurring the danger of displacement.

The word tracheotomy as a general term does harm. We ought rather to particularize, and make known on what part of that tube we operate, and not speak of tracheotomy as though it were of little moment in the performance, and that one part of the wind-pipe cut into, was as much a tracheotomy as another; not by any means should this be thought. I consider that tracheotomy strictly, and according to the definitions of anatomy and surgery, is one of

the most dangerous that come within the province of the surgeon; and, on the contrary, I consider laryngo-tracheotomy, or crico-tracheotomy as it is sometimes denominated, a very simple operation, and only requiring ordinary tact in the performance.

Since the above article was written, this operation has been successfully performed by Dr. J. L. Nicholson, assisted by myself and Dr. C. Thompson.

MR. GRANT GIVES THE FOLLOWING RULES ABOUT FOREIGN BODIES IN THE EXTERNAL EAR.

1. Be sure that the foreign body is *seen*. To attempt to extract a foreign body without first seeing it is highly dangerous.
2. Determine what the body is, and, if possible, obtain a sample of the body supposed to be in the ear.
3. Remember that a body which will not swell, and has no cutting edge, will generally remain without causing any urgent symptoms.
4. Seeing the body, determine with a probe if it be movable. If easily movable, concussion with a downward position of ear will often remove it.
5. Warm water injection is the best of all methods of removing foreign bodies.
6. If it be a vegetable substance, do not inject fluid unless you have time to extract the body either at one operation, or shortly afterwards.
7. Injection failing, which is very exceptional, a surgeon, with the necessary appliances, ought to be at once consulted, or should urgent symptoms arise from the irritation in the attempted extraction, the extraction by the incisions, galvano-cautery, boring out by trephine or conical file the centre of substance, and so causing its collapse; or even detachment of the auricle may be necessary.—*The Medical Press and Circular*.

SELECTED PAPERS.

THE YELLOW FEVER AT HAVANA—ITS NATURE AND TREATMENT.

By CHARLES BELOT.

(Concluded from page 165).

It is at the moment even, of this remission, that sulphate of quinine must be administered in a dose of thirty-six grains taken at once in a half cup of black coffee without sugar. When the intermission is complete, its action is marvellous, the disease is immediately moderated; but if there is no remission, it is necessary to be prudent, for sulphate of quinine, because of its powerful action, can do much harm, if it is not indicated. When the disease commences with chills, followed by abundant sweats after the emetic and purgative, there is assurance, that there will be another remission, and then the sulphate of quinine is preëminently the remedy. But when there are no chills in the commencement of the disease, when the prominent symptoms are heat and dryness of the skin, and the fever continues, the exacerbation will not be long delayed, and no propitious moment can be found to administer the anti-periodic.

In cases where sulphate of quinine cannot be employed, calomel is an excellent remedy, especially when in the absence of remission, the tongue shows itself humid, loaded, white, large, the gums engorged, the stools difficult, or when there is bilious diarrhœa. Under these circumstances, calomel taken in purgative doses every half hour, until the characteristic stools of this remedy appear. Very often, after the administration of calomel, remission of the fever and of the congestive symptoms takes place; the skin becomes moist, and sulphate of quinine, the effect of which will be more sure in proportion to the distinctness of the remission, may then be appropriately used. Its effect is assisted by oil and by emollient injections. If there was no chill in the commencement, aconite and tincture of digitalis will be pressed. These are ordinarily sufficient to bring the patient into full convalescence.

The action of calomel and of sulphate of quinine has led some medical men to employ these remedies, united in the same formula.

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General hemorrhage, that is to say decomposition of the blood, is combatted with tannin or perchloride of iron administered every two hours, with lotions of vinegar or of wine of cinchona, applied over the whole body.

Hematuria is combatted with weak sulphuric lemonade.

It is during the period of hemorrhages, that the parotids become swollen—a frequent indication of amelioration of the general condition. When pain or swelling appears, I apply tincture of iodine three times a day externally, *loco dolenti*. During the epidemic of 1862, I had twenty-nine cases of inflammation of one parotid, and seven of both parotids, and lost but one patient. I attribute this success to iodine. When suppuration does not invade the whole gland, premature incisions must be avoided. They would produce the serious inconvenience of retarding the cure, of making the patient suffer uselessly, and of occasioning hemorrhages difficult to arrest.

The tumors which show themselves on different parts of the body ought to be treated with topical tonics. Compresses soaked in wine of cinchona, facilitate resolution. It is not necessary to open these tumors; this would expose them to hemorrhage.

During the first period, slightly acidulated drinks are prescribed, warmed to promote diaphoresis; in the second, the patient takes cool beverages; in the third, tonics are preferable.

During the whole course of the disease, absolute diet is essential. There must be no indulgence on this point. Often a little broth, given before the period of remission, is enough to bring on indigestion, then reaction, and finally death. In the second period, there is sometimes a sensation of false hunger, which deceives the patient; but the least compliance on the part of the physician might be fatal.

To be more exact, we now proceed to examine singly each one of the recognized therapeutic remedies against yellow fever:

Bleeding.—I consider general bleeding injurious, except with individuals of apoplectic temperament, presenting symptoms of inflammatory fever. I repeat that cupping is preferable to leeches. I have already so insisted on this mode of application, that it is useless to allude to it again. I will say only, that it is necessary to employ the spring scarificator, and never the lancet or bistoury.

Pediluvia.—Foot-baths are perfectly associated with cuppings, to diminish local congestions. They ought to be given in the manner following: The patient lying on the back, draws his thighs upon the stomach, the legs upon the thighs. In this position the feet and legs are placed in a vessel filled with warm water, the temperature of which is gradually increased, until it becomes unendurable. The bath ought to last from fifteen to twenty minutes. Its effect will be increased by the addition of powdered mustard. When taken from the water, the feet should be carefully dried, and mustard plasters applied to the thighs and allowed to remain as long as the patient can bear them, when they will be removed, and placed on the calves of the legs.

Emetics.—Emesis is one of the most important remedies in the first, but becomes injurious in the second period. Black vomit often comes soon after the administration of an ill-judged emetic. The principle indications are these—the tongue humid, saburral, charged with whitish mucous deposits, nausea, disposition to vomit, bad taste in the mouth, the temperament bilious, constitution lymphatic, atmosphere damp, etc. Administered under these circumstances in the first period of the invasion, the emetic is a heroic remedy. I prescribe thirty grains of ipecac, dissolved in six ounces of distilled water, taken in one draught. Nausea soon occurs, and as soon as the patient begins to vomit, the effect of the medicine is assisted by drinks of warm water. The food contents of the stomach are first ejected, then bile. The drinks of warm water should be continued, until the liquid ejected is as clear as the water that is swallowed. After the vomiting, the patient takes one or two cups of tilia. Ordinarily, the congestive symptoms of the brain increase, by reason of these efforts, but after a short repose and a little sleep, the skin becomes covered with sweat, and on awaking, the pain in the head is sensibly diminished.

I prefer ipecac to tartar emetic, because the action of the former is more gentle and more constant, and because tartar emetic irritates the mucous membrane of the stomach. After ipecac, the patient remains calm, whilst after tartar emetic, the nausea continues, and is very often followed by diarrhoea. I insist strongly on patiently awaiting the effect of the ipecac before giving warm water, because prematurely swallowed, this embarrasses instead of promoting the effect of the medicine.

Let us, however, observe, that ipecac, if useful when clearly indicated, may produce deplorable consequences, if administered despite counter-indications. In my experience, it is counter-indicated, whenever the period of invasion is passed, and even during the period of invasion, when the patient has not been attacked immediately after a meal, when the disease has not commenced with chills, when the individual is plethoric and is subject to cerebral congestions, or when he complains of pains in the stomach, even when fasting.

The first twenty-four hours of the invasion passed, the emetic can have fatal effects. At this period, indeed, the stomach and abdominal organs suffer in a manner more direct, and the efforts of vomiting increasing, these local congestions may determine a condition as much more difficult to encounter, as the period of the disease is advanced. How often have I seen black vomit appear after an emetic improperly given! I have seen under the same circumstances epistaxis which could not be arrested, and such irritability of the stomach, that it could not bear anything.

Purgatives.—Purgatives are of as great importance as emetics in the treatment of yellow fever.

After the administration of the emetic and a repose of twelve to twenty-four hours, the purgative may be used to induce action by the intestines. It slightly excites the secretion of mucus, and facilitates the circulation and the passing of bile by the stools. Drastics should be absolutely excluded, their too violent action producing injurious irritation. Among the purgatives I recommend, above all, castor oil alone, or associated with oil of sweet almonds. When judged proper to be administered alone, two ounces at least should be given at once. When mixed with oil of sweet almonds, three ounces of the first, and two ounces of the second, adding some drops of lemon juice, unless it is preferred to give the patient a slice of lemon, after the potion, to prevent vomiting.

The action of castor oil is a little slow, but it should be assisted with injections of olive oil and warm water.

If the patient has an antipathy to castor oil, sulphate of magnesia is administered, in a dose of one ounce in a half tumbler of fresh water, with the addition of six grains of nitrate of potash. The

mixture of these two remedies produces secretion of intestinal mucus, acts upon the kidneys, augments the secretion of urine, and at the same time excites diaphoresis.

This mixture ought to be given in small doses, every half hour, as the stomach will bear it better. Given in this way it is sometimes vomited in part, so that there should be no attempt to give the remainder. If its action is delayed, it should be assisted with injections slightly purgative, warm sea water, or sulphate of magnesia, mixed with olive oil. During the action of the purgatives, especially of sulphate of magnesia, the patient may drink as much fresh water as he wishes.

Obstinate constipation, indicating a congestive state of the brain, will be combatted with Seidlitz water. The different purgatives generally bring on a calm, and marked relief.

Other purgative substances are employed, among which I would cite rhubarb and Seidlitz powder, or Seidlitz water. They are particularly indicated in the jaundice of the second, and in the commencement of the third period.

The counter-indications of purgatives are colliquative diarrhoea, the third period of the disease, hemorrhages, especially those of the anus. Feeble and lymphatic temperaments do not endure them well. They should be given to women and children with caution, and in small doses frequently repeated.

Calomel.—We have spoken of calomel, the action of which, so different according to the dose, is here formally indicated, either as a purgative, or as an alterative, or as a derivative. We have seen, that emetics were counter-indicated with persons too robust and disposed to cerebral congestion. It is in these cases, that calomel should be employed, at least, when there are no symptoms of local irritation or inflammation of the stomach. But if the tongue is loaded, humid, large and saburral, without redness of its borders, if the region of the liver is painful, the indication for calomel is more precise.

For a purgative dose there will be given every half hour from three to six grains, until the patient has taken eighteen. If, after having obtained the purgative action, it is necessary to continue the medicine for a certain time in smaller doses, as a derivative, it is given in doses of two grains every hour, until the characteristic greenish stools are obtained.

Calomel is still applicable, when constipation persists, despite the employment of sulphate of magnesia. Administered then, every hour, in grain doses up to twelve, it works marvellous effects. I have seen convulsive symptoms disappear after the administration of this remedy. One of its inconveniences is ptyalism, but this is obviated with the aid of Seidlitz powder. Very often when it has been given after the emetic and sulphate of magnesia, calomel is sufficient to produce a remission, when there has been none.

Sudorifics.—When the remedies, of which we have spoken heretofore, do not bring on a remission of the symptoms, it is well to look to sudorifics, which, facilitating the peripheric circulation, produce a general relaxation, and with this an abatement of the pulse. Among the sudorifics, I commonly select Dover's powder, and the liquid acetate of ammonia or spirit of inindererus.

The latter administered in doses of twenty drops, in four ounces of flower of elder, acts as an antiseptic and sudorific. It is indicated, when the skin is dry, with the sharp heat so common in yellow fever of the continued acute type, without remission. I have often seen individuals stubborn to sweat, despite the purgative, transpire abundantly after some doses of this medicine.

Dover's powder suits, when the patient has dry skin, is restless, and turns over in his bed uttering deep sighs. I give for the dose, every two hours, from three to four grains in two or three spoonfuls of infusion of tilia, warm or hot. After the second or third dose, the patient becomes more calm, sleeps, and wakes covered with sweat. The effect of sudorifics will always be assisted by a mustard foot-bath.

Some medical men have considered the transpiration so useful, that they have made it the basis of their treatment. In the outset, they prescribe a steam bath. I have tried this but without advantageous results.

When transpiration is determined, the pulse remains full and strong, diuretics are indicated, and among these powder of digitalis associated with nitre.

Sulphate of Quinine.—Sulphate of quinine is one of the most powerful and most useful remedies in the treatment of this disease; but it must be well indicated, well administered, and in a

suitable dose. What are the indications of sulphate of quinine in yellow fever? There must be at least remission, if there is not complete intermission of the fever. Its application is then excluded from the continued type. When the fever has yielded, by the use of the medicines of which we have spoken, or when, with sweat or moisture of the skin, the pulse has sensibly lowered, the employment of quinine is always good. Its effect will be shown, for the strongest reason, in the intermittent type. In this last case, it acts with the same precision and the same success, as in simple intermittent fever.

As sulphate of quinine has a prompt and durable action, the mucous membrane of the stomach ought to be in the best possible condition for absorption. It must, therefore, be empty. An emetic and a purgative, at least the latter, should precede the administration of sulphate of quinine. I know that there are medical men, who administer quinine in the height of the fever, regardless of the state of the stomach and of the mucous membrane. If they have found this treatment beneficial, it is by chance; for it is illogical, and its effects are commonly deplorable.

As for the dose in which sulphate of quinine ought to be prescribed, it depends on the age, sex, and temperament of the patients. For adults and men, the average is twenty grains in a single dose, in about three ounces of black coffee, without sugar. If it is feared, that the irritated stomach cannot bear so strong a dose, it should be dissolved in a few ounces of distilled water with a sufficient quantity of sulphuric acid, and given every hour by the large spoonful. If the stomach cannot bear this, give an injection of a double dose, with the precaution, not to inject more than one ounce of liquid at once, every hour. The action of the medicine will be assisted by friction of quinine ointment along the vertebral column, on the articulations of the wrist, knees, and under the arm-pits, etc.

Some enthusiasts consider sulphate of quinine, as a preventive, and direct it to be taken in a perfect state of health, or administer it in the outset of the fever. I have tried this without having felicitated myself. I will say as much of the association of calomel with sulphate of quinine. This combination should be rejected.

I have nothing to add to what I have already said as to blisters.

Bicarbonate of Soda—Nux Vomica.—When the patient complains of nausea, disposition to vomit, of eructations warm and acid, that he feels in the throat and liver a burning sensation, bicarbonate of soda is the remedy indicated. I give it in doses of one gramme in six ounces of distilled water, taken by the spoonful every hour.

I have stated before, how and under what circumstances nux vomica ought to be given. The effect of these two last remedies is often much more sure, if their action is assisted by cold fomentations upon the abdomen, perhaps with cold water alone, or with camphorated alcohol and belladonna.

Belladonna—Camphor.—Compresses of camphorated alcohol and belladonna, placed upon the epigastric region, diminish the beating of the cœliac trunk, the epigastric pain, and the vomiting. Laid at the bottom of the abdomen, they quiet the colic pains and facilitate the passage of urine. Camphor alternated with belladonna, finds its use internally, in combatting hiccough, and camphor alone is especially useful in the typhoid period of the disease.

Tannin.—Tannin diminishes the excitement of the stomach. I recommend its employment, where nitric acid reveals the commencement of albuminous deposit in the urine. Its use must be suspended, if the albumen persists or increases. Tannin is administered every hour, in grain doses in a spoonful of water. When the twelfth grain has been given, and it works no favorable change, it is replaced by arsenic.

Arsenic.—Towards the end of the second period, when the vomiting cannot be arrested, when the patient has continual nausea, when the vomit contains bile or mucosities filled with blackish or sanguinolent streaks, in a word when the characteristic signs of pronounced yellow fever are developed, there is no better remedy than arsenic. It is given as arsenious acid dissolved in water, and prepared in the following manner: Boil for an hour a grain of arsenious acid in a porcelain cup, containing a half pint of distilled water; then replace the evaporated liquid with an equal volume of boiling water, let it cool, and give this solution by the teaspoonful every half hour, until the nausea and vomiting cease.

The administration of this remedy is continued for two days, at longer intervals, that is every hour, then every two hours, finally every four hours. Prescribed under fitting circumstances, arsenic often brings unhoped for amelioration.

There are some medicines, whose action, though certain, is inexplicable. Such is arsenic, the influence of which must be accepted as a fact, without considering theories more or less satisfactory. I should add, that arsenic often determines a deceptive hunger, to which there should be no concession, because at this period of the disease, the lightest broth might cause fatal indigestion.

I have tried every possible remedy for black vomit, and there is not one, which has constantly give the same result. I have had extraordinary success with agents, which at other times produced no effect; and I affirm, that there is no therapeutic agent, which can always be employed with entire confidence. Black vomit is the symptom of alteration, more or less profound, of the bile and of the blood. If it is alteration of the bile, presenting solely the black color of jet, hope remains; but when the vomited matter is of the color and consistency of coffee grounds, the patient is irretrievably lost. This truth rests on an experience of forty years.

It is not surprising then, that under a great number of circumstances, the most heroic agents are absolutely ineffective.

Iron.—It is not necessary to give iron in too large doses. The two best ferruginous preparations are iron reduced by hydrogen, and the muriatic tincture of perchloride of iron. Small doses, often repeated, are much more easily absorbed than large doses. A quarter of a grain of powder of iron every hour, or a drop of perchloride of iron in three ounces of water, taken by the spoonful, every hour, is all that the stomach can bear; more is rejected by the stool or by vomiting. The reconstructive action of this remedy will be assisted by cold lemonades, and by ice in small quantities. Cold vinegar lotions over the whole body, frictions, enveloping the patient in sheets wet with cool vinegared water, compresses of cold vinegared water on the abdomen, changed as soon as they become warm, are adjuncts, which should not be neglected, and which will always be found good.

Ice.—Ice is one of the agents greatly abused, especially in the

first and second period. It is an excellent tonic ; but I am not well assured of its employment in the third period.

Drinks.—During the first period, the diet drinks ought to be warm or hot, to facilitate the diaphoresis so necessary at this time. But in the second and third period, there is used only cool water, slightly acidulated, and sweetened *ad gratam saporem*. In the great majority of cases the patient prefers simple water.

Regimen.—Absolute diet is demanded, rigorously, while the fever lasts. But when the febrile symptoms have disappeared entirely, and at the same time local congestions dissipated, a little thin broth may be allowed.

A certain sensation of hunger is felt, especially towards the end of the first period ; but the desire of the patient must be resisted, although the pulse may be less frequent and less full. Often at the first touch, the pulse seems regular, but the attentive physician will find something abnormal, and he will soon be assured, that the improvement is more apparent than real. .

Convalescence.—The greatest care should be given to convalescents, because relapse is often fatal. The nourishment ought to be select and the patient should not be exposed to the sun or to the influence of the moon. When the disease does not go beyond the first period, convalescence is much shorter, if there is no leading organ assailed ; but if it reaches the second and third period, especially that of hemorrhages and profound alterations of the blood, convalescence is long and painful, and often leaves its traces during the whole life.

When restoration is complete, wine of cinchona, wine of iron, cold baths, and sea baths are prescribed. In cases of swollen parotids, convalescence is prolonged during many months.

Is it possible to prevent a disease, which makes such ravages ? Its entire destruction seems to me an unrealizable utopia, because we have seen, that one of the causes of its existence is in the atmosphere ; but it is certainly possible to diminish its effects, and to avoid it, when it exists. A well observed hygiene would give the best results, and the government, which would attach its name to this undertaking, would deserve well of mankind.

Besides the causes of the disease, described in the commencement of this memoir, there is one important cause, in the collection of

persons living together under the same roof, especially in barracks. These establishments are designed to shelter, day and night, strangers, who expose themselves without precaution to sun and to damp, and who drink, and eat, as if they had nothing to fear. These barracks ought to be built on elevated places, far from the city, and from the seashore, and especially, be well ventilated. The surgeon of the regiment, should have a roll-call three times a day, and, on his responsibility, put in the infirmary, and on diet, any one, who complains of the least headache.

Instead of sending to one hospital only, the sick coming from garrison and from government ships, several military hospitals ought to be established. Every barrack should have its infirmary, with medical service, and the sick should not have to cross the city to obtain treatment. There is no disease which develops contagious miasm more suddenly than yellow fever. A large accumulation of sick in the same place, is a certain source of disease and contagion.

On board of vessels, a good hygienic system would greatly diminish the number of the sick. In ordinary times, government vessels should not have full crews. The men will then have a sufficient quantity of air to breathe. They should not be drilled in the fierce heat of the sun, or in rain, and they should be required to go to the surgeon, for the least pain in the head.

We have observed, that the incubation of yellow fever, is from ten to twelve days. It will be prudent then, in the heated term, not to remain in port more than six days. English vessels have the habit of not remaining more than three days, but they cruise in the vicinity, or go to Jamaica, so that they are always exposed. The best plan would be to leave the waters of the Gulf, which is the true centre of infection. When, despite every precaution, there are sick men on board, and their condition inspires apprehension, they should be put ashore at once, the vessel whitewashed, and sail set for other latitudes to the north.

Commercial are not under the same conditions as government vessels. On the former all is sacrificed to speculation. The crew is lodged as closely as possible, and ten or twelve men are often seen in a space, where four men can scarcely lie down. The government should require the lodgment of the crew to be on

deck, so as to allow free circulation of air. Their food should be wholesome, and well chosen, and instead of giving the crew fresh meat every day, it is better to continue giving them salt meat which is more wholesome, and more nourishing. Let us add, that the meat of the country, bought by merchantmen, is not of first quality.

There are some captains, who, to shun the invasion of the disease, engage blacks to load and unload their vessels, and during this time, leave their crews inactive. This plan is of no avail. The crew is generally composed of strong men, habituated to bodily exercise, which facilitates transpiration. They require, therefore, moderate labor.

The water of the country is bad, and it would be good to add to it a little brandy or rum. This drink is better than wine, or beer, which are adulterated and often give colic.

Prophylactic remedies have been much recommended. In latter times, chlorine on board ships was extolled, and has fallen into disuse, like others I have tried without satisfaction. I have seen a captain, who, convinced of possessing the universal panacea, neglected his sailors, and they became gravely sick. Prophylactics can not have any action on a disease which is in the air. Hygienic precautions and cleanliness, are worth more than these pretended preventives.

Inoculation.—At one time, it was attempted at Havana to prevent yellow fever by inoculation of the poison of a snake, supposed to be the *crotalus horridus*. A German adventurer assumed the respectable name of Humboldt to sustain his theory. This man had observed that the Indian prisoners, lead from Mexico to Vera Cruz, exhibited, when they were bitten by a viper, symptoms analogous to those of yellow fever. He then made some experiments with the inoculation of this substance at Vera Cruz, and at New Orleans. He came afterwards to Havana, and obtained from General Concha, then Governor of the Island, permission to make some trials at the military hospital. He proceeded in this wise: He made, said he (no one saw it), the snake bite the liver of an animal, and kept it to putrefaction. He inoculated with this substance, and gave at the same time, internally, a syrup composed of *mikiana-guaco* and rhubarb, with the addition of iodide of potassium and gutta-gamba.

The symptoms appeared in the following order : at the moment of inoculation, the subject was taken with a transient vertigo, at other times, with a nervous trembling, which lasted a longer time. Seven hours after, the pulse was modified in a permanent manner, more frequent or slower, stronger or weaker. Eleven hours after, he had febrile heat. At the end of fourteen hours, he had headache, inappetence, thirst; sixteen hours after, the face red, the conjunctiva injected. From the outset, the gums were swollen and the patient suffered from colic. Eighteen hours after, the gums were painful, and their borders became red, with pains in the salivary glands, and in the nerves of the face and teeth. Nineteen hours after, pain in the lower jaw, in the direction of the sub-maxillary nerve. At the twentieth hour, bad taste in the mouth, coryza, and œdema of the face; at the expiration of twenty-two hours, a sensation of contraction of the throat, without visible change. At the twenty-third hour, jaundice; at the twenty-fourth, gengival hemorrhage; at the twenty-eighth, conjunctiva injected, chills; at the twenty-ninth, tonsillary angina; at the thirtieth, pains in the loins; at the thirty-eighth, pain in the joints; at the seventy-second, swelling of the lower lip. During convalescence, prurience of the skin, with cutaneous eruptions. These symptoms are far from being those of yellow fever. They belong in part to those produced by the mixture of guaco and iodide of potassium, and in part to those, which putrifying substances produce, when they are absorbed.

M. Humboldt would not yield to the desire of the Commission, to try solely the inoculation and the syrup of guaco. The conclusions of the report were absolutely unfavorable to the experimentalist. The epidemic of yellow fever continuing its course, the proportion of mortality was the same among the inoculated, as among other subjects, and if the statistical tables, presented by M. Humboldt, disagree with the conclusions of the Commission, it is because he had among the inoculated, not only a great number of acclimated persons, but of individuals who had already had the disease. These ideas of inoculation, inspiring a false security, might produce the saddest results. I think, however, that this interesting question might deserve to be studied anew.

I here terminate my effort. I have proposed to make yellow

fever known, as I have observed it at Havana for some twenty years. The reflections, which I have presented on the nature and the causes of this terrible disease, the details into which I have entered, in order that all that relates to its symptoms, its progress, and its treatment, may be clearly estimated, make this work a monograph, the utility and opportuneness of which, will, I hope, be appreciated by those medical men, who are called to practice in tropical regions.

The Elastic Bandage in the Treatment of Aneurisms.—It seems likely that Esmarch's bandage will add very greatly to our means of treating aneurism. Dr. Weir has collected twenty-one cases of ilio-femoral, femoral, and popliteal aneurisms, mostly the latter, treated in this way. Twelve of these were successful, while the others failed, owing chiefly to the fact that obstruction to the arterial current was not kept up after the removal of the elastic bandage. Upon this point Dr. Weir lays great stress, and states that in it is the gist of the treatment.

In connection with the study of this matter, the question of how long a limb can be kept desanguinated is of importance. In the lower animals the time is six or eight hours. In man the time is longer than has been heretofore supposed. Ischæmia has been enforced for four, five, and in one case fourteen hours without injury. During the compression it is important to remember that the arterial tension elsewhere is increased.

Autopsies have made it probable that coagulation begins in the tumor and extends up several inches into the artery. The arterial clot then becomes organized into fibrous tissue, and for this organization a healthy state of the wall is necessary. Aneurisms with large mouths are perhaps more easily cured by Esmarch's bandage.


As the result of a study of the cases collected, including his own, Dr. Weir recommends a plan of treatment like the following: the limb should be bandaged up to the tumor and above it, but not over it. The patient should stand erect before the upper bandage is put on. Tubing should be applied in the usual manner. The elastic compression may be kept on for two hours, followed by the application of a tourniquet for two hours. If pulsation is still apparent, the elastic and mechanical compression should be repeated until pulsation has ceased. After consolidation of the tumor is secured it is well to moderate current above the tumor for twelve or twenty-four hours by a bag containing seven or ten pounds of shot.—*Amer. Jour. Med. Sciences*, Jan., 1879.

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED
IN WILMINGTON, N. C.

M. J. DEROSSET, M. D., New York City, } Editors.
THOMAS F. WOOD, M. D., Wilmington, N. C. }

 *Original communications are solicited from all parts of the country, and especially from the medical profession of The Carolinas. Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to our JOURNAL, by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to DEROSSET & WOOD, P. O. Box 535; Wilmington, N. C.*

THE APPROACHING MAY MEETINGS.

We ask the attention of the members of the North Carolina Medical Society, at the request of Dr. Charles Duffy, Jr., President, to their obligation as Chairmen and members of Committees and Sections.

The sections as instituted at the last meeting of the Society are as follows :

Surgery and Anatomy.—Dr. Charles J. O'Hagan, Greenville.

Obstetrics Gynæcology.—Dr. H. Otis Hyatt, Kinston.

Practice of Medicine.—Dr. W. A. B. Norcom, Edenton.

Materia Medica and Therapeutics.—Dr. G. G. Smith, Mill Hill.

Microscopy and Pathology.—Dr. G. G. Thomas, Wilmington.

It will be remembered that the resolution creating the Sections offered by Dr. Shaffner, of Salem, designed that all papers coming under the above heads should be presented to the Chairman of that section, and through him papers are to be presented to the Society.

It is highly desirable, therefore, that papers intended to be presented should be sent forward to their proper chairman, that they may get early attention. The ultimate design of this method is to promote a systematic and orderly presentation of papers, and to induce every contributor to the literature of the Society to put his paper in a way to be properly shaped before being read to the Society. Sometimes papers are too long to be read during the session, and still are too important to be neglected. These papers should be passed upon by the Section to which they belong, and given to the publication committee.

As desirable as this plan is, it must not be understood to exclude papers prepared too late to be reviewed by the section, for literary laziness and procrastination is the prominent failing of members of our State Medical Society. (We are now speaking as editors).

With the additional work now devolving upon our State Society, every effort will have to be made to economize time. It is desirable that the Board of Medical Examiners meet a day in advance of the Society, in order that candidates passing the Board can at once enter into the duties of full membership, and enable the members of the Board also, to take active part in the proceedings. This we understand to be the plan agreed upon by the Board, and it may be officially announced in this JOURNAL.

All these matters should be thought over before the meeting is right upon us, if we intend to make the best use of the opportunities presented, and not embarrass the presiding officer by a jumble of ill-digested work, or bring disrepute upon the Society by presenting papers put together without due study.

Another matter of vital importance should be carefully considered by every member of the Society. It is the amendment proposed by Dr. T. D. Haigh, of Fayetteville. He proposes to amend the Constitution (Art. IV, Sec. 2.) so that the officers are elected by ballot. This is not a new feature. It has been tried before in the Society but was found to consume a great deal of time. This is the only objection we have heard against it, and this should not be considered insuperable, if the amendment corrects abuses of which we have heard complaints.

We would like to see the office of President filled for a longer term than one year. A good presiding officer is not so easy to get

that we ought to be willing to let him go out of office as soon as he has shown his capacity, and this remark applies with peculiar force to the present incumbent. To affect this change though, there must be a further amendment of the Constitution.

YELLOW FEVER POISON SURVIVES A WINTER.

"The U. S. Steamer Plymouth, Captain Hanning, which left Boston March 15th, for a cruise to the West Indies, returned to Vineyard Sound on account of two cases of yellow fever occurring on board when about 80 miles south-east of Bermuda Islands.

"The ship had been in Boston during the winter, and as she had come from the West Indies last autumn with yellow fever on board she had been frozen out and fumigated. As she had not called into any port since leaving Boston, this development showed that the germs of yellow fever still existed in her, and she was headed north, being deemed, under the circumstances, unfit for cruising in the tropics. On the 31st of March, Peter Eagan, the boatswain's mate, was buried, having died from yellow fever on the previous day."—*Wilmington Sun's* associated press telegram.

The above dispatch has since been verified and the minute details will no doubt be investigated most thoroughly. Notwithstanding this case is not without a parallel, it comes in uncomfortable collision with the theories we cherish of the killing power of low temperature on the yellow fever poison.

In the most dismal times of a ravaging epidemic the heart turned with anxious longings for the arrival of frost! This was the line of demarcation between the pestilence and recovery from it! But in this case we are informed that the Plymouth spent the winter in Boston harbor with open hatches, the cold being intense enough to freeze the water in the boilers. Every means for thorough disinfection had been applied that could suggest itself to the minds of the well educated medical officers in the service of a government lavish in its supplies. With all this, a short cruise develops the fever in a form intense enough to cause the death of one of the two seized with the disease.

We will await the detailed accounts of the investigation which is to follow with peculiar interest. It is a starting point for the National Board of Health, and a difficult one.

We append the following from the Surgeon-General of the Navy, received through the Bulletin of the Public Health, from Surgeon General Hamilton, U. S. M. H. S.:

“The Surgeon-General of the U. S. Navy has furnished the following facts in regard to the recent outbreak of yellow fever on the U. S. Steamer ‘Plymouth’: On November 7th last, four cases of yellow fever occurred on board the vessel while lying in the harbor of Santa Cruz; these were removed to hospital on shore and the ship sailed for Norfolk. Three mild cases occurred during the voyage and the ‘Plymouth’ was ordered to Portsmouth, N. H., thence to Boston. At the latter port everything was removed from the ship and all parts of the interior freely exposed to a temperature which frequently fell below zero, the exposure continuing for more than a month. During this time the water in the tanks, bilges, and in vessels placed in the store rooms was frozen, 100 pounds of sulphur was burned below decks, this fumigation continuing for two days, and the berth-decks, holds and store rooms were thoroughly whitewashed. On March 15th, the ship sailed from Boston southward; on the 19th, during a severe gale, the hatches had to be battened down, and the berth deck became very close and damp. On the 23d two men showed decided symptoms of yellow fever, and on the recommendation of the Surgeon, the vessel headed northward. The sick men were isolated, and measures adopted for improving the hygienic condition of the vessel and crew. The surgeon reported that he believed the infection to be confined to the hull of the ship, especially to the unsound wood about the berth deck, all the cases but one having occurred within a limited area, and that while the ‘Plymouth’ is in good sanitary condition for service in temperate climates, should she be sent to a tropical station, probably no precautionary measures whatever, would avail to prevent an outbreak of yellow fever.”

Charcoal for Burns.—A retired foundryman claims that powdered pine charcoal thickly dusted over a burn is a never-failing and speedy remedy.

THE NATIONAL BOARD OF HEALTH.

This body as now composed includes fairly representative men. As far as we can learn it is as follows :

Dr. James L. Cabell, University of Virginia, President.

“ John S. Billings, U. S. A., Washington, Vice-President.

“ Henry J. Bowditch, Boston, Mass.

“ Henry A. Johnson, Chicago, Illinois.

Solicitor-General, Samuel Phillips, North Carolina.

Dr. S. M. Bemiss, New Orleans.

“ Th. Turner, Surgeon U. S. N., Washington, Secretary.

“ P. H. Bailbache, U. S. Marine Hospital.

“ Robert W. Mitchell, Memphis, Tenn.

A committee of experts has been sent to Havana to study the disease where it is endemic, and where it can be seen for many months in the year.

“The system [adopted by the new National Health bill] contemplates a national sanitary supervision of all vessels engaged in the transportation of goods or persons from any foreign port where any contagious or infectious disease exists, to any port of the United States. All such vessels shall be required to obtain from the consul, vice-consul, or other consular officer of the United States at the port of departure, a certificate in duplicate, setting forth that said vessel has complied with all the necessary regulations and possesses a clean bill of health. This provision applies with particular and special force to vessels from Havana, a clause in the bill defining in detail the duties of the medical officer in charge of the port. The said inspector must issue a certificate setting forth ‘that he has personally inspected said vessel, her cargo, crew, and passengers; that the rules and regulations prescribed by the National Board of Health in respect thereto have been fully complied with, and that in his opinion the said vessel may be allowed to enter any port of the United States and land its cargo and passengers without danger to the health thereof on account of any contagious or infectious disease.’ Any vessels from such port entering any port of the United States without such certificate shall in each instance forfeit the sum of five hundred dollars. The execution of these provisions is entrusted to the National Board of Health. The

latter is also charged with the duty of obtaining information of the sanitary condition of foreign ports and places from which contagious diseases are or may be imported into the United States, and also similar information from home ports. It is also provided that the National Board of Health 'shall correspond with similar local officers, boards and authorities acting under laws of the States in sanitary matters, to prevent the introduction and spread of contagious and infectious diseases from foreign countries into the United States and from one State into any other State by means of commercial intercourse, or upon and along the lines of inter-State trade and travel.' To such an end it shall be lawful in times of emergency for said board of health to confer upon any such local officer or board within or near the locality where his provisions of this act, and any rules or regulations made in pursuance thereof."—*Medical Record*.

SYMES ON THYMOL AND THYMOL-CAMPHOR.

Dr. Symes, in the *Pharmaceutical Journal* of January 10, publishes the results of his researches on the combination of thymol, chloral-hydrate, and camphor, acting as an antiseptic. The two former drugs are rubbed together in a mortar, and an equal quantity of camphor added, which liquefies the whole, and produces a powerful antiseptic. Its virtues were immediately tested on some urine containing pus, and which was already beginning to decompose. Two drops of the compound being added to it, the putrefaction was arrested. If thymol and camphor alone are rubbed together, they also become liquid, and this a convenient form from which to prepare the ointment. Thymol-camphor can be mixed in almost any proportion with vaseline, *ung. petrolei*, or ozokerine, and the thymol will not separate, as in crystals, when thymol alone is used. A solution of thymol in water (1 in 1000) is sufficiently strong for the spray in surgical operations. If used for the throat, milk and glacial acetic acid will be found to be good solvents for it.—*London Medical Record*.

REVIEWS AND BOOK NOTICES.

MODERN SURGICAL THERAPEUTICS: A Compendium of Current Formulæ, Approved Dressings, and Specific Methods for the Treatment of Surgical Diseases and Injuries. By George H. Napheys, A. M., M. D., etc, Sixth Edition. Revised to the most recent date, Philadelphia: D. G. Brinton, 115 South Seventh Street. 1879. Pp. 605. Price \$4.00, in cloth.

This is a companion volume to Napheys' Medical Therapeutics which we noticed in our January issue.

The design of this work is to give a careful digest of surgical therapeutics up to the latest date, and the author has succeeded in carrying it out. As a work of ready reference it may be compared favorably with any of a similar character. Discrimination in selections, however, does not seem to be the aim of the author, but rather to bring all matters under their heads, leaving the reader to select those best suited to his needs.

In divesting surgery of its operative procedures, it leaves a comparatively indifferent number of resources, but the therapeutical branch is by no means at a stand still.

We are pleased to see that under the head of anæsthetics, chloroform has been allowed its proper place at the head of the list.

Chloroform "is the most potent of all anæsthetics," he says, "and its use is still advocated by many eminent surgeons. Only the alleged dangers attending it, prevent its exclusive employment. Many of these arise from its ignorant or heedless administration." The directions for its use are given, as also the means of combatting dangers arising from it. Dr. Napheys might have added with a great deal of truth, that chloroform should not be administered by any surgeon who is not habitually on his guard as to the dangers of the anæsthetic state.

The dressing of wounds after the new processes of antiseptic practice receives a great deal of attention. To one familiar with the dressings during our civil war, on examination of the present multitudinous plans to exclude "germs" would bring back the days of our grand-fathers in surgery with their balms and balsams and salves; and some of the dressing is not more rational. According to Esmarch (p. 151 and 152) the dressing of gun-shot wounds

should be purely antiseptic. "Do not examine the wound at all, rather than examine it with unclean fingers—and everything is unclean, in the strict sense that is not antiseptic.

"* * * * To avoid pernicious putrefactive influences the wounds must not be touched by the hands, but closed rapidly by antiseptic plugs, in order to preserve them from the contact of putrefactive agents until they can undergo the Lister treatment in the hospitals if necessary. He proposes that every soldier should carry in the lining of his uniform two balls of *salicylated jute* wrapped in gauze."

We make this particular quotation to show to what old-maidish precision the antiseptic idea is leading good surgeons. This ever-present inextinguishable "germ" is the evil spirit hovering over every wound. Nets of gauze are set to protect it; strong odors from the witches cauldron are summoned to stifle and destroy the malicious fiend.

We are thankful though that the civil surgeon still sees "union by adhesion," and "first intention," and "granulation," in regions so far remote from Listerism that there is little hope it will enter there, and if it does it will hardly captivate the even-minded country surgeon. When the days of probationary Listerism have ended we will not be surprised if the verdict is against it.

But we have digressed from our book. It is the XVIth chapter on "Diseases of the Skin" that will be often consulted by the busy doctor. Having made his diagnosis, here is a goodly array of remedial agents, from the most eminent teachers to help him out of difficulties. We miss chrysophanic acid in the composition of his formulæ for the treatment of psoriasis. It certainly has made as much headway in the favor of the general practitioner as any of the more recent agents.

But why say anything about a book which has made its way through the world, and has now come to its sixth edition? The hundreds of medical men who will read it, will traverse a field of surgical treatment far beyond the facilities of those possessed of the best private libraries. As long as the author keeps up with the current of surgical treatment, his book will be sought after. We congratulate the author, and Dr. Brinton, on the success of this book, and advise our friends to buy it.

A CLINICAL TREATISE ON DISEASES OF THE LIVER. By Fried: Theod. Frerichs. Prof. of Clin. Med. Uni. of Berlin, &c., &c. In three volumes. Translated by Charles Murchison, M. D., F. R. C. P. Physician to the London Fever Hospital. New York: Wm. Wood & Co. 27 Great Jones Street. 1879. 8vo. Pp. 224.

This is the third volume of Wood's Library of Standard Medical Authors.

For many years this work of Frerich's has been a classic, although only known popularly to the American profession by the large number of quotations made from it by writers on diseases of the liver. Although the word "Clinical" appears on the title page, it is nevertheless a systematic treatise which traverses the entire field of clinical pathology, and embraces also lucid historical accounts of the phases of change which medical men have passed through on their way to the knowledge of the present day.

This book, more than any we have been called upon to review, shows how much German authors rely upon the authority of their own people. References everywhere abound, but for the most part to German works. We do not mention this as a fault, but to make the contrast with American authors who seem to glory in going far away from home for authority among the unspeakable names of the Russian and German gentry.

Prof. Frerich's work for this reason will be more valuable to American students who wish to know the state of pathology in Germany in regard to "the great gland."

As, of course, no American physician can now forego the pleasure and duty of making Frerich's on the Liver one of his working tools, we leave them to judge if we are mistaken in saying that it is a master-piece.

Dr. Charles Murchison is the translator, and his preface serves to elucidate many points, and to bring the work up to the present advanced state of pathological and physiological knowledge. It is not necessary to say anything commendatory of the author of Functional Diseases of the Liver, as every Southern physician will have found a good friend and counsellor in this volume already.

To subscribers this work is sold at \$1.00, a very low price!

THE DISEASES OF LIVE STOCK and their most efficient remedies : Including Horses, Cattle, Sheep and Swine. By Lloyd V. Teller, M. D. Philadelphia : D. G. Brinton, 115 South Seventh St. 1879. Pp. 469. Price \$2.50.

Diseases of the domestic animals deserve more study from the medical profession than they receive. Medical men even now submit their horses to the treatment of the neighborhood blacksmith and farrier, whose ignorance and brutality is all but universal, rather than inform themselves of the phenomena of brute diseases ; in fact, some medical men hold it as beneath their dignified calling to give their attention to such affairs. Fortunately now a better day is dawning, and books like this will do a great deal towards enticing physicians into this neglected field. There is no practice that promises such profitable returns as the educated and skillful management of diseases of domestic animals.

We advise our friends in the country to put this volume side by side on their book-shelves with Youatt, and soon the latter would be but a shelf-keeper alongside their new acquaintance.

The point of view from which the study of the diseases of domestic animals is growing in importance, is the relation of their diseases to ours.

To be able to detect measly beef and mutton is an accomplishment that every physician should acquire, now that we know that tape-worm has its origin there. And we should also be stimulated to earnest enquiry when we remember what great results JENNER brought out of the study of cow-pox.

BIENNIAL REPORT OF THE NORTH CAROLINA INSTITUTION FOR THE DEAF AND DUMB AND THE BLIND. From January 1st, 1877 to January 1879. 32d and 33d Sessions. Raleigh : Published by order of the Board of Trustees.

The last Legislature was famous for fault-finding, but had nothing but praise for the Institution presided over by Mr. Gudger. His report shows good work done, and common sense ideas of the theories of the methods of teaching of those unfortunates under his care.

Mr. Gudger reviews the arguments of the advocates of the Manual method, and the Articulation method, of instructing deaf mutes as follows :

“There is a ground, however, upon which the advocates of each system can meet and agree. In most of the larger institutions articulation has been introduced and is a success, when the class to be instructed consists of those who, having heard in childhood and learnt to speak, have become deaf (and so are in danger of losing what speech they have) or of those who are partly deaf and consequently not able to catch the delicate shades of sound in different words similar to each other. As these persons have some language to build upon, and an idea of sound, it is comparatively easy, by means of the skillful methods in use, to improve and advance their knowledge in this particular, especially as the teacher may use the *known* in getting at the *unknown*; but to attempt to teach articulation to an ordinary congenital deaf-mute, is to spend valuable time in that which gives promise of little fruit. In other words, as our matter-of-fact American people would express it, ‘*It does not pay.*’”

The entire report shows that the management is in the hands of a courageous and enthusiastic worker,—one not too much engrossed with the beautiful theories of his profession—who shows practical results instead of learned dissertations.

LECTURES ON PRACTICAL SURGERY. By H. H. Toland, M. D. Professor of the Principles and Practice of Surgery, &c., &c., in the University of California. Second Edition. Illustrated. Philadelphia: Lindsay & Blakiston. 1879.

This is a handsome volume of 520 pages, written by a teacher of surgery of great celebrity on the Pacific slope. It consists of lectures as delivered in the Medical College of the University of California, reported by a stenographer. The first edition of this book, although it was treated rather severely by the critics has found ready sale, the present being the second edition.

It is not difficult to see that Dr. Toland is an original teacher of merit, bound down by no school, nor easily captivated by innovations. He is confident of his powers and does not speak with uncertain meaning.

Under the head of fractures of the thigh, the apparatus in favor with the author is the double inclined plane with some modifications, and with which he has had admirable results.

"When you engage in practice," he says p. 284, "you will soon be convinced that the double inclined plane and short splints are generally better than a more complicated apparatus."

Again—"If physicians relied more on their common sense than on the rules of authorities in the treatment of fractures, there would not be so many cases of deformity resulting from such injuries as are daily presented. I would as soon think of committing suicide as of placing an oblique fracture of the tibia in an ordinary fracture-box, filled with either sand, sawdust, or any of the other substances used for that purpose," p. 279.

A case of aneurism of the left iliac artery is given and illustrated, (p. 515). "In aneurism of the external iliac artery" the author says "I never open the sheath, and consequently apply a single ligature; the sheath of the vessel not being disturbed, there is scarcely a possibility of the occurrence of secondary hemorrhages. I have ligated the external iliac nine times, and my success is the best evidence of the correctness of the theory upon which it is based. One patient died from gangrene of the extremity, and the other from internal hemorrhage which proceeded from the small vessels that were lacerated when the peritoneum was detached from the iliac fossa," p. 516.

The volume is well illustrated by fresh designs,—all of them original—a matter of sincere congratulation to the author and publishers.

A book possessed of so much originality and individuality as this, will be sure to find a large number of readers among the former students of the author, and will also make its way into favor with the student of American surgery.

Syphilis by Vaccination with Human Virus.—The virus was taken from the arm of a child aged seven months, apparently in perfect health. Twenty-five girls were vaccinated from this infant. At the end of six weeks, twelve of the girls were taken with symptoms of syphilis, ulcerations at point of inoculation followed by exanthema, ulcerations in mouth and pharynx, condylomata of anus, syphilitic ozæna, etc.; three others of the group suffered from suspicious ulceration near the vaccine sore, which failed to be followed by constitutional symptoms. Later it was discovered that the mother of the child was suffering from syphilis.—*Hosp. Med. Gazette.*—*Louisville Med. News.*

NEW JOURNALS.

INDEX MEDICUS.—We hardly know which to admire most in this new journal—its typographical excellence, or its editorial management. It is no surprise to the medical public that it begins its existence as an accomplished success, as Dr. Billings had long ago shown his capacity in his official position as librarian, and has shown his taste also in the typographical selections in the specimen fasciculus of the catalogue of the National Medical Library.

The two numbers now before us demonstrate as it could be done in no other way, the necessity for some guide to the medical literature of the world. The student will be helped in pursuing any special research, and the general reader will be able to know what is going on in the medical world, and be saved very much irksome reading by following his inclinations. The careless and uninformed “discoverer” of new things, may be saved the trouble of re-discovering, by looking out into the field upon what others are doing.

Twice we have written notices of this periodical, and each time it was overlooked. Our notice though tardy is none the less earnest.

The subscription price is \$3.00 a year, and intending subscribers should commence at once with the first number. Address, F. Leyboldt, 37 Park Row, N. Y.

THE COURIER OF MEDICINE AND COLLATERAL SCIENCES is the title of a new monthly journal of exceptional excellence, commencing its career with the January number, in St. Louis. This city had already in the field a brilliant array of medical journals, and while we cannot think any less of our old friends we welcome the new one.

The printer's art has cleverly served up the literary matter in a style which will commend itself to all readers, and especially those who are beginning to hold their books at arm's length. The effigy of John Hunter on the outside cover is a faithful copy of the celebrated Sharpe engraving, and is in good taste.

What a clever faculty there must be in St. Louis to sustain so many good journals by purse and pen ! We wish for the journal a most hearty appreciation.

NORTH CAROLINA FARMER.—An examination of the April number of this periodical was a pleasant surprise. It abounds in prac-

tical matters suited to the necessity of our farmers, and should be read and supported by the pen and pockets of the entire agricultural community.

We make one suggestion to the editors, and that is, that if they are to have a column for diseases and remedies (a questionable matter for all non-medical publications), that it should be in the hands of a competent medical man. We congratulate the publishers that they have no nostrum advertisements. Large quarto of 18 pp. at \$1.00 a year. Jas. H. Enniss, Editor and Publisher, Raleigh, N. C.

GROSS ON THE TREATMENT OF CYSTIC GOITRE.

In a clinical lecture delivered by M. Gross, of Nancy, reported in the *Revue Médicale de l'Est*, of November 15, he describes the treatment of cystic goitre, known as Michel's "mixed method," as extremely useful, and furnishes a case illustrating its advantages. Giving a rather extended review of the various modes hitherto proposed for removal of these growths, he points out their drawbacks, and the superiority of Michel's method over them. Briefly the latter consists in making a vertical incision in the skin over the most prominent cyst, and then dissecting carefully down through the various structures, until the wall of the cavity is reached. A very fine trocar is then pushed into the cavity with a canula, and through the latter the fluid is withdrawn. After this a plaque of pâte de Canquoin, about three centimètres broad, is applied to the cyst, the sides of the wound being protected by a circular piece of diachylon. This is left on a day or two until an eschar is formed, which soon after comes away, leaving a free opening through, which the cyst can discharge, until it shrinks up, after suppurating for a time.

It is claimed for this method that it is less likely to give rise to dangerous hæmorrhage than several others, while, the caustic only being applied to the surface of the cyst, severe inflammation of the tissues around is avoided. Other cysts, if present, are similarly treated through the aperture of the first.—ARTHUR E. BARKER, in *London Medical Record*.

CURRENT LITERATURE.

REMEDIAL AND FATAL EFFECTS OF CHLORATE OF POTASSA.

In a paper read before the Medical Society of the State of New York, (*Medical Record*, March 5th), Dr. Jacobi reviews in a very careful manner the remedial effects of chlorate of potash, and calls attention also to what he considers the dangers of large dosage so commonly employed by physicians and patients.

Sir James Y. Simpson, introduced chlorate of potash on the theoretical ground of its employment in chemistry to develop oxygen, to supply oxygen to the blood on the part of the fœtus in cases of placentitis.

Many years ago, Isambert and Honie, found chlorate of potash eliminated without any change, and in large quantities, even as much as 95 or 99 per cent. of the amount administered, in the various secretions of the body; that is in the urine, the saliva, the tears, the perspiration, the bile, and now and then even in the milk; no oxygen was developed at all. The theory of Simpson was long ago given up, because it was found out that, the same redness was produced in the blood by other alkalies.

Its principle value consists in its effect upon catarrhal and follicular stomatitis; further, in mercurial stomatitis, the former being a frequent and the latter a rare disease in infancy and childhood.

"In regard to [the employment of chlorate of potash] diphtheria, I can give [my position] in a few words. It is this: that chlorate of potassa is a valuable remedy in diphtheria, but that it is not *the* remedy for diphtheria. There are very few cases of diphtheria which do not exhibit larger surfaces of either pharyngitis or stomatitis than of diphtheritic exudation.

There are also a number of cases of stomatitis and pharyngitis, during every epidemic of diphtheria, which must be referred to the epidemic, perhaps as introductory stages, but which still do not show the characteristic symptoms of the disease. * * * *

The dose of chlorate of potassa for a child two or three years old should not be larger than half a drachm in twenty-four hours. A baby of one year or less should not take more than one scruple a

day. The dose for an adult should not be more than a drachm and one-half, or at most two drachms, in the course of twenty-four hours.

The general effect might be obtained by the use of occasional larger doses; but it is best not to strain the eliminating powers of the system. The local effect cannot be obtained with occasional doses, but only by doses so frequently repeated that the remedy is in almost constant contact with the diseased surface. Thus the dose, to produce the local effect should be very small and frequently administered. It is better that the daily quantity of twenty grains should be given in fifty or sixty doses than in eight or ten; that is, the solution should be weak, and a drachm or a half-drachm of such solution can be given every hour or every half hour, or every fifteen or twenty minutes, care being taken that no water is given soon after the remedy has been administered for obvious reasons. He referred to these facts with so much emphasis because of late an attempt has been made to introduce chlorate of potassa as the main remedy in bad cases of diphtheria—and, what is worst, in large doses.

As early as 1860, Dr. Jacobi advised strongly against the use of large doses of chlorate of potassa. * * * * The treatment is dangerous and because of the largeness of the dose of the chlorate given.

After reviewing the opinions of several writers who have extolled chlorate of potassa in large doses, and having pointed out the real solution of so many having succumbed to nephritis or similar symptoms, he concludes:

“The practical point I wish to make is this, that chlorate of potassa is by no means an indifferent remedy; that it can prove and has proved dangerous and fatal in a number of instances, producing one of the most dangerous diseases—acute nephritis. We are not very careful in regard to doses of alkalies in general, but in regard to the chlorate we ought to be very particular. The more so as the drug, from its well-known either authentic or alleged effects, has arisen or descended into the ranks of popular medicines. Chlorate of potassa or soda is used perhaps more than any other drug I am aware of. Its doses in domestic administration are not weighed but estimated; it is not bought by the drachm or ounce; but the ten or

twenty cents worth. It is given indiscriminately to young and old, for days or even weeks, for the public are more given to *taking hold* of a remedy than to *heed warnings*, and the profession are no better in many respects. Besides, it has appeared to me, acute nephritis is a much more frequent occurrence now than it was twenty years ago. Chronic nephritis is certainly met with much oftener than formerly, and I know that many a death certificate ought to bear the inscription of nephritis instead of meningitis, convulsions or acute pulmonary oedema. Why is that? Partly, assuredly, because for twenty years past diphtheria has given rise to numerous cases of nephritis; partly however, I am afraid, because of the recklessness with which chlorate of potassa has become a popular remedy. Having often met medical men unaware of the possible dangers connected with the indiscriminate use of chlorate of potassa or soda, I thought this Society would excuse my bringing up this subject. It may appear trifling, but you who deal with individual lives, which often are lost or recovered by trifles, will understand that I was anxious to impress the dangers of an important and popular drug on my colleagues, and through them on the public."

DEMANGE ON AZOTURIA.

The importance of the study of urology has of late been more fully realized by Medical practitioners, and M. Demange in his thesis (*Thèse de Paris*, 1878) has undertaken to give a full account of the progress of this branch of medical science, being also fortunate enough to be able to enrich it by several new or very little known observations on azoturia. The latter seem the most interesting part of his thesis; we give them here briefly. The normal quantity of urea which must be contained in the urine in the space of twenty-four hours is from nineteen to fourteen grammes. If more or less is excreted, this is caused either by some local or general affection. Some years ago, Bouchard, in studying the causes of loss of flesh in patients suffering from diabetes insipidus, discovered that a large number among them lost an enormous quantity of

urea. Having thoroughly examined their symptoms he thought himself fully justified in describing azoturia as a special disease, having peculiar clinical symptoms. The affection begins with a sensation of ravenous hunger, polydipsia or profuse sweating. The thirst is excessive, and the urine passed is generally in proportion with the quantity of drink swallowed by the patient. Its density is from 1000 to 1002. In order to be able to calculate justly the amount of urea lost in twenty-four hours, all the urine passed in twenty-four hours, all the urine passed in this time must be kept and mixed. In some cases it has reached the amount of eighty-seven grammes, a most enormous quantity, which proves that nutrition is very much impaired. Senator Kien and M. Bouchard have shown that what is called extractive matter is eliminated, corresponding to urea in such cases, and that chlorates and phosphates are ejected in a similar proportion. We must, therefore, not be astonished if the patients present general symptoms which are analogous to those of diabetic patients, with the exception of the visual troubles of the latter. Both the crystalline lens and the retina remain intact, and the sight is only influenced by the anæmic state of the brain, which is caused by the dyscrasia, and which in certain cases produces a torpor of the intellect verging on imbecility. As in cases of diabetes mellitus and albuminuria, sometimes the quantity of urea decreases, and even falls below the normal amount.

In order to be able to make an exact diagnosis, it is necessary to examine carefully, both the urea and the other excreta, for several days consecutively. As a rule, persons attacked by simple polyuria, or who are suffering from interstitial nephritis, beginning with polyuria, do not present the symptoms which we have enumerated.

Disturbances of the nervous symptom and alcoholism claim the first place in the etiology of this affection, and indicate the treatment which has to be adopted. It consists in administering drugs to calm the nervous erethism (opium and valerian), and to put a stop to the excessive and progressive impoverishment of the tissues (arsenic, a suitable diet, etc.) Valerian has proved specially successful in different cases, even effecting a complete cure. Besides these cases of azoturia, combined with polydipsia, Bouchard thought

that there was another form of the same disease, in which there was no abnormal excretion of urine, although the latter contained an excessive amount of urea. However, as his observation in that respect are far from being satisfactory, and as these are evidently cases of cachexia, the etiology of which is very obscure, it will be wiser to leave them alone for the present. The author then goes on to consider the much-debated question on the varying amount of urea in glycosuria. In some patients suffering from the latter affection, as much urea is eliminated as the general amount in azoturic patients. It is true, however, that there may be something more than a simple coincidence between these two affections, and several authors have tried to link them together. Lécorché, who admits the hepatic theory of the formation of urea, thinks that this is only the double result of hyper-activity of the functions of the liver. Bouchard, on the contrary, considers it as a true complication of the existing affection, where troubles of nutrition are added to those resulting from insufficient respiratory combustion. According to him, the difference between melitæmia and azotæmia consists in the first resulting from the accumulation of a product of secretion, while the second results from the accumulation of a product of excretion. Azoturia is, therefore, as we said, only a complication, an accessory element which must, however, be considered as being a most important prognostic symptom. According to the same author the abundance of sugar in diabetes is owing more to a want of combustion than an exaggerated production of this substance in the organisms. If this be the case, how can we explain the coincidence of an abnormally low temperature with the production of an exaggerated quantity of urea, such as has been observed in every case without exception? This is the weak point of M. Bouchard's theory, and it would perhaps be better to refrain from giving a decided opinion on the subject until it has been more thoroughly studied. In short, whenever there is an excessive excretion of urea we may consider it as a symptom of incipient cachexia, followed by loss of flesh. The most important question, however, for the medical practitioner is the following: are these two affections to be considered as belonging to two different groups, but having been developed incidentally at the same time in the same patient; or are they connected through a link which is still unknown to us, thereby forming one affection or disease? If these questions

could be solved, there might be some hope of discovering some rational mode of treatment, so as to prevent albuminuria from setting in, in which case all is lost. In another chapter we find the calculation of the amount of urea excreted in several chronic diseases, such as obesity, syphilis and athrepsy. Here it is easy to make a mistake, and still more so to err in trying to interpret the results obtained, because here the nourishment taken by the patient plays an important part, which is easily overlooked, e. g., in fleshy persons. Azoturia may be produced either by excess of food, or by abstaining from farinaceous food. The only way of ascertaining if the combusive functions are really exaggerated in a patient would be to compare the amount of chlorates contained in the secretions with the weight of the patient. Since Brouardel published his paper, on what he termed the uropoietic functions of the liver, several experiments have been made to ascertain the amount of urea excreted in diseases of this organ. The results have been very contradictory, but it is certain that large quantities of urea have been found in the urine of patients whose liver was completely degenerated.—*London Medical Record*.

EXPERIMENTS CONCERNING ERYSIPELAS.

Observations “were undertaken” by H. Fillman, of Leipzig, “in order, if possible to obtain further and more accurate information upon some contested points regarding erysipelas.” The experimenter has addressed himself here, especially to the answering of the four following questions :

I. Is it possible to convey erysipelas by inoculation from a diseased to a healthy individual ? In other words, do those fluids obtained from the tissues of an erysipelatos part and employed for inoculation (e. g., lymph, blood, the contents of bullæ, pus, etc.) exercise a specific, i. e., contagious action on healthy individuals when inoculated, or do they not ?

II. What is the action of carbolic acid upon those erysipelatos animal fluids which produced the same disease on being inoculated

into healthy individuals, and therefore in all probability contained the erysipelas poison ?

III. In what way is it possible (apart from direct conveyance) to produce erysipelas in healthy animals by the application of different morbid matters ?

IV. What do we learn from the results of anatomical and experimental investigation regarding the presence and significance of bacteria ? What relation have they to erysipelas ?

It would be difficult for four more interesting or important questions for the practical and scientific surgeon than these. But in proportion to their importance are the difficulties which surround them. These, however, are grappled with by the author courageously, patiently, and honestly, and the result is at all events a series of experiments of extreme interest, whatever be the conclusion, we may feel disposed to draw from them. Indeed, the writer himself seems to have set out upon his investigation purely with the desire to learn whatever is to be learned on the points stated, by careful and patient anatomical research, and without being wedded to any particular theory in regard to them, or desiring to force any conclusion.

Recognizing the great importance of the subject, and the efforts that have been made by others in the same direction to throw light upon it, notably by William, Ponfick, Orth, Bellien, Zuelzer, and Lukomsky, he has recognized many points in which these observers have failed, and has endeavored, in following out somewhat similar lines of research, to avoid their, and other, errors.

To the danger of one great source of possible error the author seems specially alive, the introduction of other matters into the system of the animal operated on than the mere morbid fluid inoculated, and this he has endeavored to guard against by the most scrupulous cleanliness in obtaining, preparing and introducing such fluids into the bodies of animals.

In touching upon the first question his first case is to define as clearly as possible what are the clinical features which characterize erysipelas in the human subject. He then details in all his experiments, and, from the kind of success of five out of twenty-five inoculations he believes there can be no doubt "that erysipelas is inoculable in rare cases ; that fluids from an erysipelatous part, dis-

play a specific contagious action." In three cases he inoculated animals from the human subject successfully with erysipelas, and in two cases animals were infected from other animals. He believes, too, that one human subject might be inoculated from another.

In regard to the second question propounded, four experiments were made with erysipelalous inoculation material, which had been potent in other cases, but here a portion of 2—4 per cent, solution of carbolic acid was added. In none of these cases was there any appearance of either local or general symptoms of any disease.

In answer to question III, all the author's results were negative. In no case was erysipelas produced by even the most putrid inoculations, when they were not taken from an erysipelalous part. In several cases, however, the animals died of distinct septicæmia.

The observations on the last point which are related in detail, point to the conclusion that bacteria are present in some cases of erysipelas and absent in others, so that we may infer that the advance of the disease does not depend upon their presence.—*London Medical Record*.

CHOLERA INFANTUM.

A contribution to the etiology, pathology, and therapeutics of cholera infantum,* by Dr. T. Clarke, Miller, opens fairly and clearly a theme which will be uppermost in the thoughts of physicians in the approaching hot weather.

The writer begins by pointing out how differently the name *Cholera Infantum* has been applied, including every phase of choleraic diseases. But, "Classification of these diseases to be practical, must of necessity be rather coarse in order to adopt itself to the grain of the great mass—the rank and file—who in the main observe well, though not so systematically as we could wish. The great office-workers do not contribute largely to our mortality statistics, but we will derive great comfort as we proceed, in finding

*The American Journal of Obstetrics and Diseases of Women and Children, April 1879, p. 286-51.

that the figures of these common men are stupendously significant—that the bullet and bayonet are in the aggregate little less important than the epaulette and the gold lace.” He supposed that in the large majority of cases reported as cholera infantum that the choleraic feature was present at some time during the illness, though very likely not at or very near the time of death. For these reasons he considers that the statistics presented are not materially impaired.

“The onset of cholera infantum is characterized by copious watery evacuations from the bowels, often attended by nausea and free vomiting. Attending upon this or even sometimes preceding it, or rapidly succeeding upon it, is the extreme muscular prostration and great depression of the respiratory functions; there is generally more or less griping pain and restlessness, and a rapid appearance of all the symptoms of collapse, coldness of the surface and tongue, feeble rapid pulse, and partial or total loss of voice. Cholera infantum proper, lasts but a few hours—hardly a few days—when it ends in recovery, death, or inflammatory disease of some portion of the intestinal tract; in the latter case the choleraic disease is rapidly rekindled by conditions similar to those which brought about the first attack.

“The condition under which cholera infantum appears, and the *only* condition essential to its development, is continued high temperature day and night—a mean thermometer above 75°, with small daily range. This high and slightly varying temperature continued from six to ten days, will invariably, in our climate, bring cholera infantum (together with the bowel trouble symptomatically more or less distinct, but pathologically akin to cholera infantum), and the longer this condition of things continues the more numerous and the more intractable the cases become. This is as true in the country as in the city, though we are led to think, as we read the books, that this is a disease of the city especially. Deaths are registered, to be sure, and the books are made in the cities, but if the conditions above mentioned exist in the country, the disease appears there—of course, not a great many cases, for the susceptible bodies furnished by a single block in the city would outnumber those of two or three square miles in the country—yet I am glad to admit that the *conditions* for obvious reasons are not so likely to be present

in the country; the contrast, in point of green grass, shade, cool water, and moving air, is no less marked than is the percentage of mortality, and it is *no more* marked.

“Few, if any, recoveries take place until the temperature falls; this fall is usually attended by rain; but this not seem to be essential, the fall of temperature alone being sufficient to bring about a better state of things. When the temperature falls, cases improve and new cases cease to appear. Sewer emanations do not seem to have anything directly to do with the production of disease, except so far as they tend to impair the general health, and thus diminish the power of the system to resist any disease producing influence, and sewer poisons are no less abundant and deadly at other times than they are when cholera infantum cases are most numerous, and this is the time of year above others when the sewers are abundantly ‘flushed.’”

Filth he does not consider is any more abundant in the summer, and the disease declines with the increase of the very rains that favor increased decomposition. He does not attach much importance to unripe fruits as a causative element. “For whoever saw a youngster who would not exchange all his earthly possessions for a green apple, and whoever saw a child in good health injured by an unripe apple or by any quantity not altogether unreasonable?” And then the sufferers from cholera infantum are—all under two years, and hence have not arrived at the green-fruit eating stage of their existence.

Nine tables are constructed, showing the weekly mortality from cholera infantum in Philadelphia, New York, Boston, Baltimore, Cincinnati and Chicago, and, also, as far as possible the record of thermometric range. An analysis of the table bears out the author's views as regards the causative influence of continued high temperature.

He thinks there are some points of striking resemblance between this disease and sunstroke, so much as to suggest a pathological relationship. 1st. The same conditions seem to be sufficient for and essential to the development of each. 2. They come and go together. 3. The development is gradual and the recovery is slow in each, showing a profound impression made on the living-power of the patient. 4. The explosive character of the attack under the

cumulative effects of continued high temperature with the sudden severe or fatal prostration consequent.

"Wash your children well with *cold water* twice a day, and *oftener* in the hot season," is the direction of the New York Board of Health; and Dr. Miller thinks if this one prescription were carried out, cholera infantum cases could be well nigh eliminated from the mortality reports. He thinks it worth while to inculcate among our patrons that however important it may be to take special care in feeling, this will not be sufficient alone, to carry the infant safely through the high temperature of July and August; and we would try to have the people study to keep the little ones *cool*, and the means recommended is cool-bathing or cool-sponging. Medicines are not of much use if the surroundings are cool.

SOCIETY MATTERS.

The subject selected by the Medical Society at the last meeting in Goldsborough, was SPONDYLITIS. They were fortunate in selecting Dr. M. Whitehead as the essayist. It seems to us it would be more agreeable to the essayist, to allow him to select his own theme, and provided he announced it in advance of the meeting, it would answer the same purpose.

The annual oration will be delivered by Dr. W. W. Lane, of Wilmington, upon a subject not announced.

The Society expects from these gentlemen rare entertainment and instruction.

In our quotation from the *Nation's* Berlin letter on "The Discovery of the Soul," the printers made the mistake of not ending the paragraph with quotation marks, and our northern neighbors who copied it from the Journal entire without acknowledgement, have incorporated Sambo's philosophy in a way that we considered original with ourselves. It would be news to the *Nation's* correspondent that he is versed in the mysteries of the philosophy involved in the "folk lore" of our Southern negroes.

TO OUR READERS.

THE VALUE OF PURE WINE IN SICKNESS.

The chief difficulty with reliable wines has been their scarcity and exorbitant price, but this has been removed by the introduction of a Pure Native Wine, produced from the Oporto grape by Mr. Alfred Speer, of New Jersey. We understand he has submitted his Wine to the test of many of our celebrated physicians, and all concur in its purity, medicinal properties, and superiority to the best imported Port Wine. Most of them prescribe it in cases of debility, affections of the kidneys, and chronic complaints, requiring a tonic, sudorific or diuretic treatment.—*Examiner*. Sales-room 34 Warren street, N. Y.

MALTINE.

This above preparation is attracting the attention of the medical profession of Great Britain and the reputation it has acquired as one of our best nutritive agents is recognized and established, as the following extracts will show :

From the *British Medical Journal*, October 10th, 1878 :—" At the late meeting of the British Medical Association, at Bath, in August last, among the visits of Pharmaceutical and Medical preparations, much interest was shown in one called *Maltine*, which may be described as a highly concentrated extract of *malted barley, wheat and oats*.

"Extracts of Malt (i. e., Malted barley) are pretty widely known, but this is the first example of a combination of the nutritious principles of these three cereals that we have seen, and the greater value of this combination is apparent, as wheat and oats are especially rich in muscular and fat-producing elements. This preparation is entirely free from the products of fermentation, such as alcohol and carbonic acid, and is very agreeable to the taste.

"Clinical experience enables us to recommend it as a nutritive and digestive agent, in virtue of its albuminoid contents, and its richness in phosphates and diastase, likely to prove an important remedy in pulmonary affections, debility, many forms of indigestion, imperfect nutrition, and deficient lactation. It will in many cases take the place of Cod Liver Oil and pancreatic emulsions, where these are not readily accepted by the stomach."

From the *Medical Times and Gazette*, November 2d, 1878 :—"We have received a sample of a preparation called Maltine, which is

described as being a concentrated extract of *malted barley, wheat and oats*. It is prepared with great care by a process fully described by the manufacturers (Reed & Carnrick) in a pamphlet which they will, we believe, willingly supply to any medical practitioner. The preparation possesses many qualities of great importance. It is non-alcoholic; it is agreeable to the taste; from its being so concentrated it is more portable than the liquid known as Malt Extract; and it possesses the virtues of that preparation in a much higher degree, inasmuch as it combines the principles of the three cereals above named, and wheat and oats are especially rich in boñe, fat, and muscle-producing elements. We have very good reasons for believing that it has been very carefully analyzed and examined by a competent authority, and proved to be very rich in diastase, in phosphates, and in albuminoid matters. It is very likely, therefore, to have considerable value as a digestive and nutritive agent in many wasting diseases, and cases of debility and imperfect assimilation. *Maltine* at any rate is well worthy of being put to the test practically by medical men, and it may be taken pure or mixed with water, wine or milk."

UTERINE DISEASES.

By E. H. MURRELL, M. D., Lynchburg, Va.

It has been asserted that life is the most mysterious problem in nature, and that its duration is circumscribed by the laws of disease; consequently the incessant conflict which is waged between health and its insidious destroyer can never cease, but will ever continue to engage the attention of the chemist and pathologist in their profound researches of the best means of its preservation. Therefore, we need not be amazed or inquire why it is that the power of preserving life is held in such high estimation, or that the loss of it should be deemed a private misfortune or a public calamity.

Whatever may be the cause of constitutional debility and whenever prolonged, it must of necessity impair the healthy nutrition of the tissues, and lead to a low, inflammatory condition of the mucous membranes. The uterus and its appendages constitute no exception to the general rule, for whenever inflammation is lighted up in this organ, functional disturbance, accompanied by ulceration and hypertrophy follow as a natural consequence. On the other hand, it has been clearly demonstrated that constitutional debility of the gravest import and prolonged duration has its origin in those causes which induce sanguineous and muco-purulent discharges, continued pain, great despondency, and a general inability to partake of the accustomed food and exercise.

In the consideration of uterine diseases, including leucorrhœa, dysmenorrhœa, suppressed catamenia, menorrhagic and vaginal inflammation, it is proposed briefly to allude to the efficacy of the Bedford Alum and Iron Springs Mass as a curative agent, and to call attention to its tonic properties, which act most beneficially in their healthful restoration. By reference to the analysis of this Mass, it will be seen that it contains all the constituent properties most essential to the relief of morbid disease, namely by restraining the secretion while combining the tonic properties alike conducive to the improvement of the circulation and removing the causes which influence constitutional debility. For this reason, the water appears to exert a specific influence over the female organism, and often displays its wondrous power of relief after the unsuccessful employment of all other remedial agents.

A brief synopsis of the treatment of suppressed catamenia by the Bedford Alum and Iron Springs Mass which came under the immediate attention of the writer, will suffice to attest its virtues :

Miss. J. S., a resident of this city, aged 20 years, of delicate constitution ; had for months suffered from suppression of the catamenia which resulted in anæmia and great emaciation, attended with extreme nervousness, loss of appetite, constant cough, pain in the chest, night sweats, closely bordering on phthisis pulmonalis. After the exhaustion of numerous emmagogue agents which had been employed for months unsuccessfully, medical counsel was sought, and apparently with little hope of recovery. She was at once placed upon the free use of the Bedford Alum and Iron Springs Mass, which was continued for the space of three months, at the expiration of which time all organic disturbance was removed, with a complete subsidence of the symptoms before detailed, and a perfect restoration of her health, which has continued unimpaired to the present date.

Other cases might be adduced in testimony of the great efficacy of the Bedford Alum and Iron Springs Mass in the treatment of uterine diseases generally ; but enjoying as it does so largely the public confidence and endorsed by the well-tested experience of the medical profession, any additional evidence in support of its virtues and wide-spread reputation would only prove superfluous and uncalled-for by the most skeptical.

OBITUARY.

ISAAC HAYS, M. D.

Dr. Isaac Hays, editor of the American Journal of Medical Sciences for 52 years, died in Philadelphia, Saturday, April 12th, 1879, 83 years of age.

WILLIAM, A. DICK, M. D.

Dr. William A. Dick, formerly of Greensborough, N. C., and a son of the late Judge J. M. Dick, died in the town of Lumberton, N. C., on the 27th of March, 1879. Dr. Dick was no ordinary man. He was educated at the University of North Carolina, this institution conferring the degree of A. M. upon him in 1852. He graduated in Medicine at the University of New York, March, 1852; and began the practice of his profession in Lumberton in 1852. The medical profession has lost a bright light, and the community in which he lived a useful and honored citizen.

L.

GEORGE B. WOOD, M. D.

On the 30th ult., George B. Wood, M. D., of Philadelphia, died, in the 83d year of his age.

Dr. Wood was born at Greenwich, N. J., March 13th, 1797; graduated from the University of Pennsylvania as long ago as 1818. His extended career has been full of work, diligently pursued and successfully achieved. He was for many years Professor of *Materia Medica* in the Medical Department of the University of Pennsylvania, and from 1850 to 1860 was Professor of the Theory and Practice of Medicine in the same institution. At the time of his death he was President of the American Philosophical Society. He is the author of many important medical works, those by which he is best known being the "Dispensatory of the United States," written in collaboration with Franklin Bache, and first published in 1833, and his "Practice of Medicine," which long enjoyed great popularity. He also wrote much on historical subjects beyond the limits of his profession.

CARL F. BURKHARDT, M. D.

At a called meeting of the New Hanover County Medical Society to take suitable action in regard to the death of Dr. Carl F. Burkhardt.

The meeting was called to order by Dr. W. G. Thomas, President, and the following members were appointed to draft suitable resolutions: Drs. Love, Lane, and Wood.

It was resolved that the Society attend the funeral in a body.

WHEREAS, Dr. Carl Frederick Burkhardt has this day been stricken by the pitiless hand of death, we, the members of the New Hanover Medical Society, in honor of his memory and as an evidence of our esteem, adopt the following resolutions:

Resolved, That his professional attainments, his cultivated mind, his kind heart, his genial manners, deservedly won for him, who came among us a stranger, our respect and affection.

Resolved, That in his decease we lament a valued member of our profession, a good citizen and a gallant friend.

Resolved, That these resolutions be spread upon our minutes; that they be published in the NORTH CAROLINA MEDICAL JOURNAL, and in the daily press of this city; and that a copy duly attested, be presented to his family with assurance of our sympathy.

WM. J. LOVE,
WM. W. LANE,
THOMAS F. WOOD.

Wilmington, N. C., April 10th, 1878.

BOARD OF MEDICAL EXAMINERS.

To the Editors of the North Carolina Medical Journal:

In order to regulate the practice of Medicine and Surgery in the State of North Carolina, the General Assembly at the Sessions of 1858 and 1859, passed an Act to establish a Board of Medical Examiners.

Without a license from this Board, no physician who has commenced the practice of his profession in this State, "after the 15th of April, 1859, shall practice Medicine or Surgery, or any of the branches thereof, or in any case prescribe for the cure of disease, for fee or reward," nor "shall he be entitled to sue for or recover, before any magistrate or court in this State, any medical bill for services rendered. (See Laws of North Carolina, 1858-59.)

In conformity with the provisions of this Act, the State Board of Medical Examiners will meet in the city of Greensborough, on Monday, May 19th, 1879.

By authority of the Board.

PETER E. HINES, M. D., President.

HENRY T. BAHNSON, M. D., Secretary.

Salem, N. C., April 15th, 1879.

Medical Remuneration.—Doctor: "Um! most insolent!" (To his wife), "Listen to this my dear." (reads letter aloud) "Sir, I inclose P. O. order for thirteen shillings and six pence, hoping it will do you as little good as your two small bottles of 'physic' did me."—*Chicago Journal and Examiner*.—*Punch*.

BOOKS AND PERIODICALS RECEIVED.

Fern Etchings. By John Williamson. Specimen fasciculus.

A Clinical Treatise on Diseases of the Liver. By Dr. Freid. Theod. Frerichs. Vol. 2. Wm. Wood & Co.

Difficulties and Dangers of Battey's Operation. By George J. Engelmann, M. D., St. Louis, Mo. From Trans. Am. Med. Association, 1878.

Reports with Analyses of the Apollinaris Spring Neuenaha, Rhenish, Prussia. 1872. (Private and confidential).

Lectures on Practical Surgery. By H. H. Toland, M. D. Prof. of the Principles and Practice of Surgery. Second edition. Philadelphia. Lindsay & Blakiston, 25 South 6th Street.

Valedictory Address to the Graduating Class of Jefferson Medical College, at the Commencement March 12, 1879. By Prof. J. Aitken Meigs, M. D. 1879.

Ninth and Tenth Annual Reports of the Maryland Eye and Ear Institute. No. 66. N. Charles Street. Baltimore, Md. George Reuling, M. D. Surgeon in charge.

An Address upon the Life and Character of Lunsford Pitts Yandell, M. D. Delivered before the Kentucky Medical Society at the meeting held in Frankfort, April, 1878. By Richard O. Cowling, A. M., M. D.

Ringworm in Public Institutions. From Trans. Am. Medical Association. Rosacea. Extracted from the Transactions of the Medical Society of Pennsylvania. By John V. Shoemaker, M. D. Philadelphia, 1878.

The Causes of Sudden Death of Puerperal Women. An Address delivered before the American Medical Association, June 5th, 1878. By Edward W. Jenks, M. D. Chairman of Obstetrics and Diseases of Women and Children. Reprint from Trans. Am. Med. Association. 1878.

Maternal Impressions: Mothers Marks. An Exposé of a Popular Fallacy. By Roswell Park, A. M., M. D. Dem. of Anat. Chicago Medical College. Reprint from Southern Clinic. 1879.

A Manual of the Examination of the Eyes. A course of Lectures delivered at the "Ecole Pratique," by E. Landolt, Directeur. Adjoint, &c. Translated by Swan M. Burnett, M. D. Philadelphia. D. G. Brinton, 115 South Seventh Street. 1879. Price \$3.

NORTH CAROLINA MEDICAL JOURNAL.

M. J. DeROSSET, M. D., } Editors,
THOMAS F. WOOD, M. D., }

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ORIGINAL COMMUNICATIONS.

COUNTRY CLINQUES.

VI—1. MINNIE-BALL IN THE TARSUS FOR 12 YEARS—
EXTRACTION. 2. REMOVAL OF A MYOMA FROM SU-
PERIOR MAXILLA OF A CHILD, ONLY NINE MONTHS
OLD.

BY A NORTH CAROLINA PHYSICIAN.

1. James L., æt. 22, Serg't 2d N. C., Batt., in the first day's fight at Gettysburg received a gun-shot wound in the left foot, the ball entering at the tarso-metatarsal articulation, and ranging centrally downwards and backwards. An examination at the field hospital led the surgeons to believe that the ball had rebounded. In a short time he recovered sufficiently to walk about, and after being exchanged, was able to resume duty with his command. The wound, however, opened again and again, and the foot was the seat of severe pain after any unusual exertion. After the war he resumed his avocation of farming.

Twelve years after the reception of the injury, he presented himself to me for examination. He complained of frequent attacks of pain of a darting character, commencing at the old wound, and extending up the limb, until the whole body was in a quiver of agony. Generally tonic contractions of the flexor muscles accompanied the pain, and not unfrequently partial or even total unconsciousness. He was a powerfully built man, and on one such occasion, as his wife was bending over him to give him water, his arms closed around her with such force, that she was nearly suffocated before his clasp could be loosened by some neighbors, who fortunately happened to be present.

An examination of the foot showed only a slight, general swelling about the tarsus. The outside joint had normal mobility. The wound of entrance was sunken and closed, except in the centre, where there was a small scab, from beneath which a thin, yellowish pus exuded. On the inside of the foot was a small opening, which from its teat-like prominence, appeared to communicate with diseased bone. Just beneath this opening, in front and considerably below the internal malleolus, extending to the plantar surface, were two linear cicatrices crossing each other, the marks of a former unfinished operation. (Patient informed me that the operation was left unfinished, because of the alarming prostration which ensued during the administration of chloroform). As a consequence of this operation there was some loss of motion and sensation of the toes and ball of the foot.

With but little difficulty the probe was passed down the track of the wound, and at a distance of $3\frac{1}{2}$ inches from the surface, it came upon an obstruction. It was firm and unyielding, but without the roughness and resonance of bone. I concluded that it was either the ball or some foreign matter, and my patient was so certain of the fact that he would not listen to the suggestion of a doubt. The opening on the inside of the foot was carefully probed, but without finding denuded bone.

I deemed it unwise to open up the old wound again, involving as it did, several bones and articulations. The inside of the foot was already considerably damaged by the former operation, and I did not like to open the plantar fascia and interfere with the important tendons and ligaments on the bottom of the foot, I therefore decided to operate from the outside.

The patient inhaled ether kindly and in fifteen minutes was completely under its influence. Passing a probe down upon the ball, I measured upon another probe lying parallel with the first, from the level of the point of entrance of the ball, three and a half inches upon the outside of the foot. This point, which was $1\frac{1}{2}$ inches below and a little anterior to the external malleolus, was included in a V shaped incision with the base opening upwards. After the bone was laid bare, it was attacked with a $\frac{3}{4}$ inch trephine. It yielded readily and was soon cut into, to the depth of an inch. The core was now extracted piece meal with chisel and gouge—a very difficult procedure. To my great satisfaction, upon clearing out the cavity, I found the point of the ball in the centre of the opening. The trephine had again to be used to cut out the bone which surrounded it, until it could be pulled and prized out of its closely fitting bed. We found the bone surrounding the ball covered with a smooth, tough membrane, which secreted a scanty pus. The ball was considerably flattened, and at the bottom of the wound it had been deflected from its course, so that its point was in the direction of the counter-opening. It was only slightly discolored.

No vessels or important structures were divided in the operation.

The wound was carefully cleansed, and the external incision partially drawn together with silver sutures, after which it was covered with a rag soaked in laudanum. (I invariably use this as a dressing, keeping it up until pain is allayed, when I substitute whiskey for laudanum. I do not believe that anything can be suggested which is more comfortable and generally satisfactory). Considerable pain was experienced for two or three days. Surgical fever was very slight. The external wound was not allowed to unite, and the opening in the bone was frequently syringed out with carbolyzed water. By the 10th day, granulations entirely covered the new wound in the bone, and the old wound was soundly healed. On this day, patient returned to his home, fifty miles distant.

A year later I saw him again, when he informed me that he had been able to go about on his foot three weeks after his return home, although it was several months before the wound was entirely healed. Since that time he has been free from all pain and trouble. He can walk with any man in the State, and claims to be again the champion dancer and jumper in his mountain country.

II. W. H. S. was observed to nurse with difficulty when three months old, and upon examining the mouth, there was found on the alveolar fold of the upper jaw a little to the left of its middle; a small, hard, red lump. This gradually increased in size; until at nine months, it was larger than a walnut. It now forced out the upper lip so that the mouth could not be closed. Pushing upwards it nearly obliterated the left nasal orifice, and could be seen and felt in the canine fossa nearly to the malar bone. Viewed internally, it presented a prominent, smooth, bluish red, much injected surface, crossing the median line, and extending backwards more than an inch. The folds in the mucous membrane which ordinarily appear in the roof of the mouth, were entirely obliterated over the extent of the tumor. To the touch it felt hard and unyielding. The child was fretful and scarcely able to take food; the necessity for operative interference was therefore urgent.

My diagnosis was that the tumor was in the maxillary bone, and probably extended into the antrum. In this opinion I was upheld by the rest of the physicians who were assembled to assist in the operation, with the exception of the regular family attendant, who contended that the tumor was altogether external to the bone. As the result will show, neither was wholly wrong.

The child, lying upon its left side, was held on the knees of the attending physician, and carefully anæsthetized with chloroform. Exploratory punctures showed that the tumor was covered with bone, for a considerable extent, both posteriorly and anteriorly, while the needle passed upwards more than an inch, before encountering bony resistance. The punctures bled freely, and as an exploratory incision, made by another physician some time before, had given rise to severe hæmorrhage. I resolved to cut around the tumor as much as possible, before cutting into it. My first incision separated a portion of the soft tissues at the side, and cutting more anteriorly, I came upon a large incisor tooth, which was extracted by a dentist friend in attendance. To its incomplete fang was attached a portion of the tumor. This proved to be a bluish-brown, from striated tissue, resembling in all respect the muscular structure of a chicken gizzard. Hæmorrhage was so slight, that I no longer hesitated to make a crucial incision over the length and breadth of the tumor, which was then easily detached from the un-

derlying and overlapping bone, with a gouge. Its length proved to be nearly two inches, breadth and depth a little more than an inch—with nodular prolongations in various directions. A considerable portion of its bony wall was now cut away to enable us to unite the edges of the palatal wound with silver sutures. From the opening in the alveolar portion, the cavity was packed with benzoinated cotton. About two ounces of blood were lost in the operation—no vessels had to be ligated. The child was under the influence of chloroform nearly two hours. Almost immediately afterwards it awoke, and eagerly took nourishment. The packing was discontinued on the third day. The sutures were taken away on the fifth day, after which the patient required no further attention. Six months after the operation the deformity was scarcely perceptible, and there has been no sign of a return of the tumor. It is hardly to be expected, that teeth will appear in the site of the morbid growth.

THE PROPERTIES OF HUMAN INTESTINAL JUICE.

An unsuccessful herniotomy, which led to a fistula that divided the bowel near the junction of the small and large intestine into two distinct portions, has enabled Dr. D. Emant, of St. Petersburg, to make some experiments with pure intestinal secretions, collected from the large intestine between the fistula and the anus. His results have been communicated as a preliminary notice to the *Centralblatt Med. Wis.*, No. 7, 1879, as follows: 1. Human intestinal juice is a clear, thin liquid, of a strong alkaline reaction. 2. The total quantity secreted is not large. The secretion is increased during digestion, but during the night almost arrested. It is not affected in any way by purgatives. 3. It does not contain any ferment capable of digesting albumen; and has no action whatever on any kind of protein. 4. It converts starch into grape-sugar, and also changes cane into grape-sugar, but leaves inulin (which has been recommended for diabetic patients instead of bread) unaltered. 5. It emulsifies fats containing *free* fatty acids, but not neutral fat in which those acids are combined with glycerine.—*Med. Times and Gazette.*

VERATRUM VIRIDE IN PUERPERAL ECLAMPSIA:

By CHARLES JAMES O'HAGAN, M. D., Greenville, N. C.

On the night of November 13th, 1878, was hurriedly called to see Mrs. A., living about three miles from town. The messenger could give no information as to the nature of the case beyond the customary statement, that she was "bad off."

On arrival found the patient, a young married woman in her first pregnancy in the midst of a frightful convulsion. As soon as possible made a digital examination to see whether she was in labor, and if so, how far advanced; found the os closed, and no sign of uterine contractions.

The woman was young and plethoric, and in all respects a good case for bleeding, with which I proposed to commence treatment; but my lancet case which had not been out of my pocket in years, was now missing—and on examining my medicine chest my mortification was complete on finding I had neither chloroform nor chloral among its contents.

While I was internally debating whether I would return to town and provide myself with the necessary remedies—it occurred to me to try the effects of veratrum viride—of which I had a vial of Norwood's tincture.

The patient's pulse at that time was 156 per minute, the face congested and livid and the breathing stertorous.

It is unnecessary to add that she was unconscious.

At that moment she had another convulsion so terrible that I feared she would never come out of it alive.

Oh! how I wished for a lancet. However, before the fit was entirely over, I threw ten drops of Norwood's tincture into the arm at the insertion of the deltoid and waited results. I did not have long to wait.

In ten minutes after insertion, the pulse fell to 140, in five minutes more to 120, in ten more to 90, at which time a profuse sweat broke out over the whole body, the face became pale and the breathing less labored; but the effects did not stop there. The pulse continued to fall rapidly, until it got to 40, with intense sick stomach and vomiting of glairy mucus. The surface was cold and clammy,

and the whole system completely relaxed. In a word, the tonic effects of the veratrum were present in an aggravated form. The situation began to be serious. The patient was still unconscious, the attendants supporting the head over the edge of the bed to assist in the effort at vomiting. It was impossible to give anything by the mouth, and the hypodermic administration of morphine, seemed to be imperatively called for. Half a grain of sulph. morph. was inserted in the other arm, which, in fifteen minutes quieted the retching; but the pulse still remained at 40, and the same profuse cold perspiration still bathed the surface of the body. There were no alcoholic stimulants in the house, and while a messenger was dispatched after some, I concluded to try the hypodermic use of aromatic spirits of ammonia.

Half a drachm without dilution was injected into each arm, and before the messenger returned reaction set in. It was aided by hot bricks to the feet, spine and pit of the stomach.

I remained with the patient all night; she never had another symptom of convulsion, and became partly conscious in the morning when her bowels were moved by an enema of salt and water, and she was left in a comfortable condition.

She was visited again in the evening, and was fully conscious. Some urine, which had been saved for me, was now examined and found to contain 60 per cent. of albumen. She had also considerable œdema of the feet and legs and the face was puffy; but whether the result of albuminuria of the convulsions of the previous night is not clear to me.

She was immediately placed on a diet of skimmed milk of which the family had an abundance, and directed to take $\frac{1}{2}$ oz. of bitartrate of potass. every alternate night until her confinement, which took place ten days afterwards. In five days there was only a slight appearance of albumen; but she had no convulsions and passed safely through a severe and prolonged labor.

This case is reported because, I think, it proves the undoubted value of veratrum viride in eclampsia, and according to a report of a police surgeon, published in the *New York Medical Record*, in the latter part of last year, it was of very great value combined with sulph. morphia in controlling epileptic convulsions.

If I were compelled to use it again in a similar case, I would not

give more than five drops hypodermically, and repeat again if necessary; but although it might not act so powerfully in other cases as in this, it is well enough to be cautious, in dealing with so powerful a drug. In the May number, 1871, of the *American Journal of Obstetrics*, is a very valuable article by Dr. Herbert Fearn, of Brooklyn, "on veratrum viride as a substitute for blood-letting in puerperal convulsions," which reports a large number of cases, all showing its great power in controlling eclampsia; but in the cases given it was administered per orēm.

That we have then in veratrum viride another powerful weapon with which to combat this terrible disease is clear to my mind; and to call the attention of the profession to it, will, I trust, be a valid excuse for reporting this case.

A CASE OF CHLOROFORM NARCOSIS—RESTORATION BY THE METHOD OF INVERSION.

Reported by WM. R. WILSON, M. D., Townesville, N. C.

Mrs. E., æt. 35, mother of three children, about the first of last February, aborted a two months fœtus. The abortion was followed by a severe attack of pelvic peritonitis, for which I was called to attend her. Uterine examination revealed complete retro-version of that organ, which, no doubt, was the cause of her miscarriage. Of course, no attempt was then made to replace the organ, but all my efforts were to combat and limit inflammatory action. On the 11th of April after a tedious convalescence, and the patient seeming only to suffer from the local effects of the displaced organ, it was determined to attempt its reduction. The attempt provoking considerable tenesmic effort upon the part of the patient, I concluded to anæsthetize her. Having no ether and being ten miles from a drug store, I determined to use chloroform.

The patient was placed upon a table upon her back, her clothing loosened about her neck and stomach and about one drachm of chloroform was poured upon the inhaler (an old-fashioned cone,

made with a newspaper and filled with a handkerchief). A few inhalations seeming to produce a marked effect, I at once placed her in the left lateral position, saw that she had ample breathing space; introduced Sims' speculum; carried the sound into the uterus to verify my diagnosis, when she complained that I hurt her and begged for more chloroform. I poured what I thought to be one-half drachm upon the inhaler, placed it about one-half inch from her mouth in the hands of her husband with directions to watch her pulse and breathing; then attempting to replace the uterus by pressure exerted upon it through the vagina. She still complaining of pain, I directed her to take a long, deep inspiration. I carried two fingers into the rectum and was just beginning to feel that the organ was yielding to the pressure, when Mr. E. exclaimed, "my wife is breathless and pulseless!"

It was even so, in a moment she passed from a state in which she complained of suffering to a condition of seeming death, "breathless and pulseless." At once I suspended her from her husband's shoulders, head downwards, dragged out her tongue and commenced artificial respiration.

After a long, long interval of dreadful suspense she gave a feeble gasp; taking fresh courage and re-doubling my efforts it seemed as if the feeble gasp was only the last effort of expiring nature. Through the open window could be heard the glad and happy prattle of her little children at their play, utterly unconscious of the desperate state of their mother. What poignancy this gave to my feelings can only be known by those who have passed through a similar ordeal.

Almost hopeless, but continuing my efforts at artificial respiration. Wishing for nitrite of amyl, but having none, at last I was rewarded by a living, sighing respiration, then another, and another, at shorter intervals. Placing the patient back upon the table, in the recumbent position, but calling to mind the report of Marion Sims of a similar case, in which the breathing immediately ceased, whenever the patient was changed from the inverted to the recumbent position, her head was made to project from the end of the table and so lowered upon pillows until perfect rhythm of lung and heart action was restored.

There is nothing new in this case or original in its treatment; but

it is placed upon record as another finger post pointing to the danger that lurks in the lethean drug. So far as I could judge there was nothing in the history of the patient or in her condition at the time, contra-indicating the use of chloroform. The amount used could not have exceeded two drachms—and a good deal of that must have evaporated into the atmosphere of the chamber. The writer for four years during the war, used and saw it used hundreds of times; has used it frequently since, though lately preferring ether, and never had before any serious accident. He administered it in this case until within a few seconds of its almost fatal result, then placing it in what he considered the proper position, and intrusting it to the hands of an intelligent man, with direction to watch pulse and breathing, the patient complains that he is hurting her and almost in the next moment, he is startled by the cry, "My wife is breathless and pulseless." The conviction is forced home to him, that in some individuals there are contra-indications to the use of chloroform only to be developed by experiments and that the experiment may cost a valuable life. The treatment by inversion of the patient ought to be known as the *leading* method by all who use this agent and if perchance the blood can only *gravitate* to the great nervous centres that preside over the functions of respiration and circulation, there may be a new lease upon life.

Domestic Tracheotomy.—A small yearling youngster at Fort Wayne, Indiana, had the misfortune to suck a kernel of corn into his windpipe the other day. The doctor was sent for in haste, and announced that it would be necessary to perform the operation of tracheotomy to save the child's life. The Hoosier mother, familiar with a practice of domestic surgery of a different sort, and not pleased with the idea of having the child's windpipe cut open, seized the sufferer by one leg, and holding him up, head downward, administered several resounding spansks. There was a sound not unlike the report of a pop-gun, and the kernel of corn was ejected with great force. The child was at once relieved, and recovered, of course.

The astonished physician declared that, for a "*corn-doctor*," this Hoosier mother beat them all hollow.—*Sanitarian*.

SELECTED PAPERS.

COLOR-SIGHT AND COLOR-BLINDNESS.*

By J. R. WOLFE, M. D., F. R. C. S. E.

Surgeon to the Glasgow Ophthalmic Institution, Lecturer on Ophthalmic Surgery in Anderson's College.

Color-blindness having for the last few years occupied so much of the attention of the literary and scientific world, I wished to ascertain to what extent that defect exists among the rising generation of this community. With this view we formed a commission, consisting of Dr. Cumming, Dr. Pickering, and myself, and, with the permission of the School Board, we visited several schools and examined upwards of 2000 children. I propose in this paper to submit the result of our examination to this Society.

It is a comparatively recent subject. The first cases of color-blindness were published by Joseph Huddart in the *Philosophical Transactions*, London, 1777. But the subject excited little interest until the year 1794, when the celebrated English chemist, Dalton, who was red-blind, published an account of his own case, which attracted so much attention—it being considered a rare curiosity—that subsequent writers called the defect Daltonism.

In 1805 that stupendous genius Goethe published a treatise on the pathology of color-sight. In 1837, Professor Seebeck was the first to examine a number of color-blindness, and to classify the degrees of their abnormal condition. But the most important work on the subject was that of Dr. George Wilson, Professor of Chemistry in Edinburgh, which first appeared in the *Monthly Journal of Medical Science* for November, 1853. "My own special attention," says Wilson, "was directed to the subject from the blunders which I found many chemical pupils make in reference to the colors of compounds. After making every allowance for imperfect exposition on my part, and insufficient attention on the part of my students, and after also making a large deduction for inaccurate answers on the score of imperfect remembrance and inability to name colors, I still found, in the laboratory and lecture

*Read before the Glasgow Philosophical Society, March 5, 1870.

room, that many a pupil was puzzled to describe the changes which occur when an acid or an alkali acts upon a vegetable coloring matter, although, to a normal eye, these changes are of the most marked character, and that, in general, I could count with little confidence upon accurate answers to questions regarding the colors of bodies."

A great deal has since been written on the subject, both in France and Germany. The most comprehensive treatise on color-blindness appeared recently by Professor Holmgren, of Upsala, Sweden. It is only just to the Edinburgh Professor to say that Holmgren's most striking points are due to Wilson's suggestions. Great credit is due to Dr. Joy Jeffries, of Boston, for his valuable efforts to direct public attention in America to that subject, Dr. Stilling, of Cassel, and Dr. Cohn, of Breslau, have also given us valuable contributions to the study of this subject, and my excellent friend, Dr. Hugo Magnus, of Breslau, has written several *brochures* which have called forth high eulogiums from Mr. Gladstone, who published a paper on "Color Sense of Homer" in the October number of the *Nineteenth Century* in 1877. Mr. Gladstone's paper was mainly instrumental in directing public attention to the subject in this country—the more so, that it was at a time of feverish political excitement that England's great statesman and scholar was able to shake off Russ and Bulgarian, and to devote some hours to the study of the "Color Sense of the Homeric Period." I propose to speak to you this evening on perception of color in its practical bearing upon certain occupations, especially *employés* on railways and sailors. A few introductory remarks on the physiology of vision will facilitate the treatment of the subject.

The eye is the organ which brings us into contact with the world around us, by giving us an image of objects; of their size, shape, and color. The medium through which this effect is produced is primarily the retina and optic nerve. The retina receives the impression of light and color emanating from objects, which impression is conveyed to the brain by means of the fibres of the optic nerve. This is the organ of vision in its most rudimentary form, as met with in the lowest forms of animal life, consisting of a nervous cord, and coloring matter for absorbing the rays of light. But in ascending the scale of animal life, we have the visual

organ in a degree of perfection and development commensurate with its requirements.

The human eye in its totality may be regarded as a photographic apparatus, consisting of retina to receive the image, optic nerve to conduct the impression, compound lens for refraction, camera, adjusting apparatus, nerves for regulating its movements, and nerves for its nutrition. When we consider that the eye is a self-adjusting apparatus, serving the purposes both of telescope and microscope, and that the retina is a kind of plate, which not only receives the impression of objects from without, but upon which also are registered the changes that are going on in the brain, heart, kidneys, and other organs, and that its materials are composed of organic substances subject to structural changes, we must admit that, with all its optical imperfections, the eye is an instrument not lightly to be spoken of.

That the retina is a membrane corresponding to the photographer's plate, is a statement which I could not have made to you two years ago. All that we then knew of the retina was, that it consisted of five layers, and that the outer layer (rods and cones) was the impressible membrane which Heinrich Muller demonstrated in 1874, but by what mechanism we were left to mere conjecture. It is only two years since Prof. Boll, of Rome, published his observations on the photo-chemical action of the retina.

Experiment.—Take a frog, and keep it in darkness for some time, then decapitate it, and keep the head in a dark place for twenty-four hours; remove the eye-ball, open it, and examine the retina, which you will find of a beautiful red color; expose it to the sunlight, and the red gradually vanishes, the membrane gets pale, then yellowish, and ultimately becomes like white satin. This red principle of the retina, which is generated in darkness, and decomposed in sunlight, Boll calls erythropsine. That it exists after the death of the animal, shows that it is not a transitory property, but a durable chemical element of the retina, analogous to the hæmoglobin of the stroma of the red corpuscles of the blood.

The erythropsine is transformed by the light into several physiological combinations, the same as hæmoglobin is changed by the action of different gases. The different chemical combinations, resulting from the action of light upon the erythropsine—in other

words, this photo-chemical process—constitutes the essence of the perception of light and color.

There is another factor in this physiological laboratory which we must notice—namely, behind the retina there is a layer of epithelium, covered with pigment cells of hexagonal shape. These cells contain oil globules, which Boll considers to be the primary materials from which the erythropsine is incessantly reproduced.* The experiments made by Boll upon frogs, and cartilaginous and osseous fishes, have been repeated with the same result upon the human subjects by Professors Schenke and Zuckerkandel, of Vienna, after a capital execution.

A propos of the photo-chemical theory, it appears to me to bring us one step nearer to a comprehension of the intimacy which exists between mental operation and physical action. Without losing myself in metaphysics, I would merely indicate that it shows that the image of objects is actually impressed on the retina, which the mind stores up: memory is the faculty of bringing forth these plates when required. Thus the analogy between the retina and the photographer's plate is strictly correct, only that the retina gives us a chromo-photograph.

Now with regard to the perception of color. Newton has demonstrated that white light, as emitted from the sun or from any luminous body, is composed of seven different kinds of light, viz.: red, orange, yellow, green, blue, indigo, and violet. If we admit a beam of the sunlight through a small hole in the window-shutter of a dark room, it will go on in a straight line and form a round white spot on the wall. If we now interpose a prism whose refracting angle is such that this beam of light may fall upon its first surface and emerge at the same angle from its second surface, and if we receive the refracted beam upon a screen, instead of a white spot, there will be formed upon the screen an oblong image of the sun, containing the seven colors, which is called the solar or prismatic spectrum. These seven colors are called primary colors,

*These peculiarly shaped pigment cells behave very curiously. They seem to be migratory cells. When the eyes have been kept in a dark place or in a red or yellow light, the retina can be easily separated from the pigment layer, as a distinct membrane; but when the eyes are exposed to white, green, blue, or violet light, the pigment extends into the interstices of the retina, and the rod and cone layer cannot be separated from it.

because they cannot be decomposed ; pass one of them through a prism, and it will merely be bent, the color still remaining the same. All colors used in the industries are only mixtures of different pigments, which are decomposed by the prism.

Adopting the undulation theory of light, and looking at the solar spectrum, we find that red, which has the longest wave, is the least refrangible color ; whilst violet, which has the shortest wave, is the most refrangible ; and green, which has the medium length of wave, occupies the middle of the spectrum or is of medium refrangibility.

Upon this simple view of the subject is founded the theory of perception of color, first propounded by Thomas Young, and lately defended by Helmholtz, which is generally adopted under the name of the Young-Helmholtz theory, which is this, that the retina has three distinct kinds of nervous elements, each of which perceives one of the three fundamental colors, red, green, and violet. The first of these elements is excited in the highest degree by the red rays, but also slightly by the green, and feebly by the violet rays. The second category is impressed by the green rays, and also feebly by the red and violet rays. Thirdly, the violet rays excite strongly the elements of the third category, which are little sensible to the green rays, and in a still less degree to the red. Every one of these elements, when excited, transmits to the brain the impression of its own fundamental color. The impression of the intermediary colors is given by the excitation of two or three of these groups in different degrees. When all the three are equally excited, the result is white or grey color.

This theory, although the only explanation we are at present able to give of chromatic perception, yet, as microscopic anatomy has never demonstrated these three fibres, we must still regard as merely a hypothesis and provisional, which may belong to the same class as that of luminous perception, prior to Boll's discovery of the photo-chemical process. But with this new point of departure, I venture to think that we may yet construct an ophthalmic-spectroscope, or another apparatus to explore the retina, and chemists may yet succeed in analyzing the erythropsine. We may, perhaps, find in it a more simple explanation of the perception of color. The little that we do know of the behavior of erythropsine, under the

influence of various colored rays, is sufficient to show that it is an important factor in chromatic as well as in luminous perception.*

Since writing the above, I received a communication from Professor Boll, informing me that he had several interesting conversations with Helmholtz on this subject. He says: "On the main point of the question, Helmholtz agreed with me entirely, but some of his observations contributed very largely to correct my first views. I still continue to retain as certain the Young-Helmholtz theory that every sensation of color is composed of three different sensations. I admit in the retina the existence, not of three nerve-fibres, but of three different kinds of percipient organs—viz.: 1st. the pigment cells; 2nd, the cones; 3d, the rods. Every sensation of color is threefold, being composed of three different irritations—the irritation of the pigment cells, the irritation of the cone, and the irritation of the rod. Helmholtz agrees with me, that the proofs for this new theory are quite sufficient." He read a memoir before the Academia dei Lincei, entitled "*Tesi ed Ipotesi nelle Sensazioni della Luce e dei Colori*," which will be published next month.

Every healthy retina, then, receives an impression of different lights and also of different colors. In a state of disease, there are abnormal sensations of color, as, for instance, in some forms of atrophy of the optic nerve, in hysterical epilepsy, and in the case of habitual drunkards, etc.; but every retina in the exercise of its healthy functions, is capable of receiving the impression of color and its various shades, and of communicating that impression to the brain. The acuity of perception of the different shades may be developed by practice, the same as the ear to notes, but that

*1. In complete darkness, retinal red is like the middle of spectral red. 2. After long exposures to solar rays, the retina becomes colorless. 3. In red light, retinal fundamental red becomes more saturated, like Pompeian or brownish red. 4. Yellow light does not much alter the fundamental color of the retina, but renders it a little brighter. 5. Green light: (a) the action of an intense green light, when of short duration (or one of medium intensity prolonged), changes the fundamental color into purple red, which, getting paler, turns into rose color; (b) when an intense green light is prolonged, the red purple passes off, becomes paler, and at last colorless. 6. Blue and Violet: (a) when of feeble intensity (or intense and of short duration), the color changes into a muddy violet; (b) when the intense rays are prolonged, the violet is effaced, and the retina becomes quite colorless. 7. Ultra-violet rays have no physiological action upon the retina, however long they are continued. These observations are in many respects incompatible with the Young-Helmholtz theory of color-perception.

physiological faculty cannot be absent, unless in exceptional cases, when we must regard it in the same light as hare-lip, cleft-palate, deficiency of fingers or toes, or any other congenital abnormality. The theory advanced by Magnus is, that man in his primitive condition, had no perception of color ; in the next stage of development, red and yellow became visible ; in the third, green and its varieties ; and in the fourth, blue and violet became to be recognized. He thinks that will account for the confused manner in which the ancient writers describe colors. Indeed, in speaking with a well-educated color-blind person, he was reminded of reading Homer,

Mr. Gladstone, who twenty years ago was struck with the fact that Homer's color-adjectives and color descriptions of the poems were not only imperfect, but highly ambiguous and confused, says, "I rejected the supposition that this was due to any defect in his individual organization, and found that his system of color, or rather his system in lieu of color, was founded upon light, and upon darkness its opposite or negative, and that the organ of color was but partially developed upon the Greeks of his age." Now, Magnus, adopting the development theory, has with great erudition endeavored to reconcile it with the physiological action of the retina, and Mr. Gladstone finds in it countenance for the opinions he had long since expressed with regard to the Homeric Poems.

From the views given above of the physiological action of light on the retina, it will be seen how entirely I differ from my friend, Dr. Magnus, as also from Mr. Gladstone's reading of Homer.

Does the Homeric text shut us up to the conclusion that either the poet or the whole Greek nation were color blind ?

It appears to me very difficult to entertain such a view. The Greeks of the Homeric period could not have been color-blind, when we find that all the colors of the spectrum are found in their language. They have μέλας, black ; λευκος, white ; -ερυθρος, red ; φαινίς, dark red ; ξανθος, auburn ; χρύσεος, golden ; γλωρος, greenish-yellow ; κυανος, blue ; πορφυρεος, purple. That they sometimes misapplied the terms has nothing to do with the question ; it is quite a common occurrence in the poetry of our own advanced age. The expressions κροκοπέπλος 'Ηως, saffron-robed Aurora, and δοδοδακτυλος

'*Hw̄s*, rosy-fingered Aurora, are exquisite personifications, although the tints of the rising sun may not correspond to a nicety to rose or saffron color. The *realistic* word-painter Dante has also pictured Aurora—

“ Si ohe le bianche e le vermiglie guance,
La dove io era, della bella Aurora,
Per trappa etate divenwan rance.”—(*Purgat*).

Of which the following is a faint rendering:—“So that, there where I was, the white and vermilion cheeks of beautiful Aurora, have, through advanced age, become of orange hue.” Bearing in mind what Macaulay says of the Florentine poet, we must admire this perfect picture as characteristic of, and in keeping with, his *intense realism*, if I may use that expression; but it cannot be admitted as superior, if at all approachable, to the sublime, suggestive touch where '*Hw̄s* μεν κροκοπέπλος εκίδνατο πᾶσαν ἐπ' αἶαν—saffron-robed Aurora was spread over all the earth. Still less can we make of Homer's varied application of the term πορφύρεος, purple, for this color is not found in the spectrum, but is a mixture of its two extremes—viz. : red and ultra-violet. It may, therefore, with propriety, be applied to female robes, to the rainbow, to blood, cloud, &c.

We may notice in passing, the manner in which Homer treats ladies' eyes. Juno, as the queen of gods, the dignified matron of Olympus, is described as Βωωπὺς Ἥρη (ox-eyed)—meaning a large, round, dark eye; while Minerva, the goddess of wisdom, is described as γλαυκῶπις Ἀθηνη, which we were taught to translate “blue-eyed Minerva,” until informed by the high authority of Mr. Gladstone that it does not refer to color at all, but it is to be translated “bright or flashing eyed.” There is no doubt, however, that the Greeks used γλαυκῶπις to signify blue-eyed, for Herodotus speaks of the Budini, a Scythian tribe in Southern Russia as γλαυκὸν καὶ πυρρὸν, blue-eyed and red-haired.

Among the interesting communications which Mr. Gladstone's article has called forth, is one by Herschel, in *Nature* for November 28th, 1878, who calls attention to the fact that Homer, once at least, styles himself “a downright blind man;” and Herodotus, in his *Life of Homer*, states that “he was born 167 years after the

Trojan War, and when still a child was adopted by his step-father, to whom he succeeded in the management of a school. At an early age, however, he set out for distant voyages. When about thirty-four years of age, he lost his sight from a chronic disease of the eyes. Previously, when at Ithaca, he had a narrow escape from that calamity." Judging from this epitome, I think it most probable that he was neither blind nor color-blind, but his vision was dim from an attack of Egyptian ophthalmia, which he contracted on his voyage. The quotation from Herodotus just referred to can hardly be construed into anything else than a relapse of that affection which he contracted at Ithaca. In the East a blear-eyed person is called blind, but Homer may have been suffering merely from partial opacity of the cornea, the consequence of the affection just mentioned, which a strolling minstrel is likely to get.

I examined a large number of discharged soldiers and others suffering from Egyptian ophthalmia (some in its most aggravated forms), and I found that the perception of color was not prejudiced thereby.

Reference is made by Mr. Gladstone to the Prophet Ezekiel (i. 27, 28), who was also in a backward state in regard to color-perception. The prophet describes the rainbow—"I saw, as it were, the appearance of fire, and it had brightness round about. As the appearance of the bow that is in the cloud of the day of rain, so was the appearance of the brightness round about," which, Mr. Gladstone thinks, cannot be explained but by supposing that, for the eye of the prophet, red was the fundamental and exclusively prevailing color of the rainbow. We are not told whether we are to infer that the Prophet Ezekiel himself was color-blind, or whether the Jewish nation of that period were in a backward state. If the Homeric argument is to apply to Ezekiel, it would be very remarkable indeed, for in that case the Jewish nation, instead of progressing in the appreciation of color, must have sadly degenerated, for we find that nine centuries before Ezekiel, when they had just escaped from Egyptian bondage (Exodus xxviii, 17-21), Moses commanded the children of Israel to set the breastplate of the High Priest with twelve stones. Amongst these were the carbuncle, emerald, sapphire, amethyst, etc., representing all the spectral colors. That the primitive man was not born with an absolute blindness to color,

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and that his chromatic perception was not left to progressive education of the eye, is proved from the fact that the mother of mankind could distinguish the color of the fruit, for she saw it "beautiful to the eye;" and we know that a color-blind person cannot distinguish ripe cherries, strawberries, or apples, from the leaves, except by the form.

It appears, therefore, that Dr. Magnus, misled by the beautiful Darwinian theory of development has entangled Mr. Gladstone in a hypothesis, which from a physiological, as well as from a historico-critical point of view, cannot be seriously entertained.*

But the ethnological question, however interesting, sinks into insignificance when compared with the practical aspect of the subject, which involves the interest and safety of the public.—*Medical Times and Gazette*.

ON OZONE IN RELATION TO HEALTH.†

By HY. DAY, M. D., F. R. C. P., London.

"Since the state of life necessitates the state of death, and since the functions of life are productive of decay, it becomes evident that in the scheme of nature there must exist the means of breaking up all effete and noxious compounds, the resultants of decay, into either their original elements or into other innocuous compounds fitted again to serve and subserve the purpose of vitalized matter. The best agent—perhaps the only agent—suited to the performance of such a duty is that all pervading elementary gas, which Priestly (its discoverer) called vital air—a gas now universally known under the name of oxygen, and found to be present in our atmosphere to

*In thus speaking of Magnus' views, I refer only to "Die geschichtliche Entwicklung des Farbsinnes" (Leipzig, 1877); but we are indebted to him for his excellent publications on the subject, "Die Farbenblindheit" (Breslau, 1878), and "Beiträge zur Kenntniss der Physiologischen Farbenblindheit," in *Graefe's Archiv* (Berlin, 1878). It is also with great pleasure that I embrace this opportunity of expressing my high appreciation of his Ophthalmoscopic Atlas, which I think cannot be surpassed.

†An address delivered before the Sanitary Institute of Great Britain and Ireland at Stafford, on Thursday, October 3d, 1878.

the extent of one part in five. Oxygen, you are aware, is essential to everything that lives; but, in addition to and beyond this, it enacts the important part of Nature's greatest scavenger by effecting those very decompositions the necessity for which I have just referred to. It appears that under certain conditions, this gas has the power of combining with itself, or, speaking more correctly, I believe, of existing in a condensed form. So condensed, we recognize it under the name of ozone, the name having been given to it in consequence of its possessing a very disagreeable odor. It is in this condensed condition that oxygen (ozone) appears to exercise the intensity of its action in a manner so remarkable that I have chosen it, and its relation to health and disease, as the subject of the present address."

The speaker then traced the history of the discovery of ozone, step by step, to Schönbein, who held the opinion that ozone resulted from the action of electricity on oxygen; to Odling, who started the theory that ozone was condensed oxygen; and to Soret, who abundantly confirmed by experiments the correctness of the theory. There were various methods of producing ozone, one of which was the discharge of the spark through oxygen gas. What was called the physiological (or more correctly, the pathological) action of ozone had been well studied. He said:

"If a warm-blooded animal be placed in a glass chamber and subjected to a stream or ozonized air; the oxygen of the air having been ozonized to the twelfth part, and the influence of carbonic acid being entirely excluded, special phenomena are quickly displayed. The first sign or symptom is an irritability of the mucous surface of the nostrils and of the conjunctivæ; there is often free secretion of saliva, and even profuse sweating in those animals that exhibit sweating. There is also thirst and dryness of tongue and nostrils. These symptoms are succeeded by great rapidity of respiration, and soon by violent action of the heart. When the chest is listened to (auscultated) in this stage there is always dry, bronchial breathing, and a whistling sound as in the first or preliminary stage of acute bronchitis in the human subject. The effect of the ozone being sustained, cough manifests itself, followed by secretion of frothy fluid from the bronchial surface. This is equivalent to the congestive stage of bronchitis. Finally there is lividity of the skin,

of the nose, nostrils, and lips, great coldness of the surface, gasping respiration, jactitation, and death—the death being often sudden. This may be said to resemble, in a very perfect manner, the exudative stage of bronchitis. This order of symptoms or phenomena has been observed by all experimentalists.

“It was, some time since, pointed out with particular care by Dr. Richardson, and my own experiments, some of which Dr. Richardson witnessed, were attended with corresponding results. The morbid appearances presented after death from ozone in warm-blooded animals are principally confined to the respiratory passages. If an animal be killed during the first stage, the bronchial membrane will be found to be dry, deeply congested at spots, the lung structure being ecchymosed, and both sides of the heart full of blood. In the second stage the whole lung is congested, the bronchial surface being red, the right side of the heart engorged, the left side of the heart empty. In the third stage the lungs are also intensely engorged, the bronchial surface paler and filled with frothy fluid, the right side of the heart full, the left side empty. In cases where animals are removed from the chamber at the beginning of the second stage, and, after some exposure to the air, subsequently die, the morbid anatomy is rather that of pneumonia than bronchitis. In one experiment that I performed the stage of hepatization (that is, solidification) was so distinctly that I could not have recognized it, by the lung itself, from hepatization of the lung in the human subject after pneumonia. These experiments certainly seem entitled to be received as evidence in favor of the idea that ozone may possibly be provocative of certain epidemics—I mean of catarrh, bronchitis, and the like.”

The speaker next referred to experiments by Dr. Moffatt, whose views were the outcome of ten years' continued observations. During the time that Dr. Moffatt was making observations as to the atmospheric conditions under which phosphorescence and the appearance of ozone took place, he noticed that cases were common of apoplexy, epilepsy, vertigo, epistaxis, neuralgia, diarrhoea, with or without cramps, and premature uterine action, immediately before or during ozone periods and periods of phosphorescence, and at the approach of storms and gales, and the issuing of Admiral Fitzroy's caution telegrams. The speaker described the experi-

ments, extending over a period of ten years, and presented them in tabular forms, which were handed to the meeting. He remarked that the tables showed that the quantity of phosphorous oxidized in the air and in our systems depended upon similar atmospheric condition; viz. : the maximum with the equatorial current and the minimum with the polar current; but said that it did not appear to be clear with the above disorders, although taking place with the maximum of ozone periods and the issuing of cautioning telegrams, might not depend on the process by which we are brought under the influence of these conditions, rather than on the gales and ozone itself.

In respect to what ensues when ozone is absent from the air, the speaker said there was a good deal of concurrent testimony as to the connection which existed between the absence of ozone and epidemic cholera. He quoted observations made in India at fifteen different stations, which showed that cholera was at its greatest ascendancy when ozone was either absent from the atmosphere or at its minimum; that the disease showed a most marked diminution when ozone was registered as increasing and when at its maximum the disease ceased altogether if the maximum continued for any length of time. Experiments at Strasbourg in 1854 and 1855, and others by Dr. Moffatt and Mr. Glaisher, pointed in the same direction. The speaker handed in tables showing the atmospheric conditions which prevailed during six months of the cholera epidemic in London, in 1868, and remarked that it was almost impossible to resist the conclusion that there was some connection between epidemic cholera and the absence of ozone.

As to the part that ozone might be capable of playing in preventing or arresting disease, it was necessary to bear in mind its properties. "Soret's experiments," the speaker said, "prove that it is heavier than oxygen; it is also quite insoluble in water, while its power is intensely increased beyond that of ordinary oxygen, so that air saturated with it destroys dead organic matter with great rapidity; thick India-rubber tubing is quickly eaten through by it, and all ammoniacal products are speedily decomposed by its action. It is, however, principally in its chemical character that we must look for its good effect in preventing or arresting disease."

Ozone is a most powerful oxidizing disinfectant, and it is so in virtue of possessing the power of resolving and decomposing all animal and vegetable putrescent matter into primitive and innocuous forms. A stream of ozone passed through a mass of black, offensive, and putrescent blood effects a change in it as if by magic; immediately almost as soon as the operation has commenced, all disagreeable odor is removed, it re-assumes its florid red color, and coagulation is restored. The products of putrefaction, as no doubt you are aware, not only favorable to the development of special poison germs, but such products, also, by their continued action, prevent the proper oxidation which should go forward in the various tissues of the body, thus causing a predisposition to the action of any poisoned germs to which the body may be exposed. If ozone be diffused through apartments or elsewhere, it not only disinfects, by removing noxious vapors and poison germs, what their character may be, but being itself in the gaseous form, it is inhaled during respiration, and, passing into the blood through the lungs, it oxidizes the used-up and effete matters produced during assimilation and the renewal of the various tissues, thus effecting in no inconsiderable manner a certain resistance to their pernicious influence if retained within the human body.

There has been much discussion as to what the precise nature of disease germs may be; but be they in the form of bacteria, or of any other form, ozone is potent for their destruction. * * * There are other competing disinfectants, such as iodine, chlorine, bromine, etc., but it has always appeared to me that we have in ozone Nature's own provided disinfectant; and, although I admit that artificial states often require the application of means correspondingly artificial, yet by keeping on Nature's lines, and using the very means she herself makes use of for the maintenance of life, the continuance of health, and for rendering innocuous the products of the functions of life, we are more likely to effectually attain the object in view than by making use of any other means whatever. The always and everywhere present oxygen needs no expensive process for its production, while its conversion into its most active condition, in the shape of ozone, may be arrived at by means so simple and so inexpensive that on these grounds, if on no other, it stands, at least, in my estimation, as the best, the safest,

and the least objectionable of all disinfectants. Lastly, ozone admits of being administered as a remedy for disease, and is, indeed, so administered in the form of ozonized oil, ozonized ether and ozonized water. Here it ranks with remedies containing chlorine, bromine and iodine. Whether in any respect it may, as a remedy, prove to have greater advantages than any, or all, of these agents, must be arrived at by determining whether it will do what the others cannot do. This, of course, can only be clearly and decisively made out by applying to it the test of an inductive philosophy—a rigid exclusion of all that is ineffective,—*The Sanitarian*,

RUTHERFORD ON THE BILIARY SECRETION OF THE DOG WITH REFERENCE TO THE ACTION OF CHOLAGOGUES.

The first instalment of Dr. Rutherford's Experiments was given to our readers in the JOURNAL of September, 1878, p. 161. This supplemental paper is summarized by the *London Medical Record* as follows :

Dr. Rutherford assisted by M. Vignal and Dr. W. J. Dodds, has presented to the Scientific Grants Committee of the British Medical Association a series of papers detailing his elaborate researches upon this subject. The first of the third series of these papers is published, *in extenso*, in the *British Medical Journal*, December, 1878, and the concluding paper, February, 1879. It is not intended to give our readers anything approaching to an abstract of these papers, but merely to make a few remarks that may serve to draw attention to them, as they ought to be read by all. Although the experiments prove that a large number of drugs stimulate the liver to secrete more bile, it cannot be absolutely shown how or why they do this; most probably, however, it is due to a direct action of their molecules upon the hepatic cells or their nerves. All the experiments were made to test the influence of the different substances on the bile-secreting mechanism, the method of observation preventing any observation on the action of drugs upon the bile-

expelling mechanism. Every substance hitherto supposed to be a cholagogue has, with the exception of calomel and manganese-sulphate, been shown to have a distinct bile-secreting power. The term cholagogue is necessarily vague, and Dr. Rutherford proposes to give the more definite term of *hepatic stimulant* to those substances which are proved to have the power to increase the secretion of bile. In all the long lists of drugs whose effects were investigated, only one, viz. : acetate of lead, was found to have a directly depressent effect. It was invariably observed, however, that powerful purgation produced a marked indirect depressent effect as regards bile secretion. This is due apparently, either to a drain from the portal blood of bile-forming substances, or to an excessive lowering of the blood-pressure of the liver, or of the system generally, by a large dilatation of intestinal and mesenteric vessels. When, however, a purely intestinal stimulant, as magnesium sulphate, is given, it doubtless depresses the secretion of the bile, not only in the manner just indicated, but also by hurrying out of the intestinal canal substances which would otherwise have been absorbed, and would have assisted in the formation of bile. This depressent action of purely intestinal purgatives will prove a valuable fact in rational therapeutics. Dr. Stewart's observations upon the value of ammonium-chloride in hepatic diseases do not prove that agent to be a cholagogue or hepatic stimulant; on the contrary, Dr. Rutherford found that the quantity of bile was more or less diminished. The great practical value of the knowledge of the fact that purgatives diminish the secretion of bile deserves to be always borne in mind by the practical physician. Hepatic stimulants should be given before intestinal stimulants, so that the latter may not interfere with the former, but merely move their results. Nothing effects this more surely than two grains of euonymin, a powerful hepatic, but feeble intestinal stimulant, followed by a morning dose of an ordinary saline aperient. The wonderful results, obtained from large doses of ipecacuan in cases of dysentery, are due to the direct power this drug possesses of exciting the hepatic secretion. The various contradictory statements, hitherto made, as regards the action of calomel are harmonized by the results of Dr. Rutherford's experiments. Larger quantities of bile pass after a dose of calomel, due not to hepatic but to intestinal

stimulation. Mercuric chloride was found to be a true hepatic stimulant. By these experiments and observations Dr. Rutherford claims that "by means of a novel and precise method of investigation, we have been the first to place the whole subject of the physiological actions of drugs on the liver upon a sound footing; and thus to lay a real foundation for the rational—this is scientific—treatment of many diseased conditions of this important organ."

STARCKE ON CHLORAL HYDRATE ENEMATA IN AFFECTIONS OF THE STOMACH.

The author (*Berl. Klin. Woch.*, August, 1878,) had been suffering from chronic catarrh of the stomach, the worst symptom of which was sleeplessness, to such an extent the patient hardly slept one hour out of the twenty-four. His colleagues advised him to try chloral, but as the state of irritation his stomach was in would not allow him to take it *per os*, he resolved to administer it to himself *per rectum*. An aqueous solution of 5 per cent. of chloral was warmed to 35°, and 10 grammes of this solution were injected. A few minutes later on an agreeable sensation of warmth spread over the body, and the patient fell asleep and slept soundly for five hours. The author continued with his treatment for five months, using during this time about 120 grammes of chloral; after the first few doses he improved to a marked extent; his appetite came back, and his meals were no longer followed by headaches and nausea. The author strongly advocates the use of chloral hydrate in the form of enemata in cases of gastric irritation; the point of the syringe must be well oiled, and introduced beyond the sphincter; the fluid ought never to be injected cold, but always warmed to the temperature of the body. The dose given *per rectum* must be smaller than it would be *per os*; fifty centigrammes are sufficient. —*London Medical Record*.

CLINICAL LECTURE ON CANCER OF THE BODY OF THE UTERUS.

By J. MATTHEWS DUNCAN, M. D., LL. D.,

Physician-Accoucheur and Lecturer on Midwifery to the Hospital.

To-day, the chief subject of my lecture is cancer of the body of the uterus, a disease forming part of a great class of diseases—cancer of the female genital organ and their neighborhood—in regard to which a great deal has yet to be made out. The preëminently glandular organ called the neck of the womb is the most frequent seat of cancer in the female genital organs, but this preëminence is very much exaggerated. This arises from the fact that, as cancers in these parts go on, the neck of the womb becomes involved, and then the case—diagnosed as most cases of cancer are, in a late stage—is put down as a case of cancer of the neck of the womb, whereas really nothing is known as to where it originated. Lately, in “Martha,” we have had thirty-nine cases of cancer in the interior pelvic region, and of these nineteen, or about one-half, have been put down as cases of cancer of the neck of the womb. But even with regard to these nineteen we have not invariably been certain that the disease ought to be so classified. We were sure that in each of these cases there was cancer of the neck of the womb, but whether the disease commenced there (and it is from the position of the commencement we would name such a disease) we could not tell. Besides nineteen cases of cancer of the cervix, we have had five cases which have been entered as cancer of the vagina, we have had four cases entered as cancer of the body of the uterus, we have had one case of cancer of the rectum, and we have had ten cases which have been classed either as cases of pelvic cancer or as cases whose origin was not only unascertained, but unguessable. In a former lecture in this course I described to you a case of cancer commencing in the sacrum, osteo-sarcoma. Cancer may commence in any part, and before I come to the proper subject of the lecture I shall say a few words about an interesting case, an example of disease which probably began in the rectum, but, as you will see, now affects the uterus as well.

E. W., aged thirty-five, was admitted March 10. She has been twelve years married and has had four children, the last three years

ago, and she has not been in good health since that birth. The catamenia have been regular till six months ago; since then she has almost constantly lost some blood, and there has been at times a yellow discharge. Complains of pain in the lower part of back, and in both iliac regions, especially the left. Passes urine generally with fæces. The last are passed twenty times, or oftener, daily, and with severe tenesmic pain, and with griping in left iliac region. The disturbance by her bowels is very annoying during the night. The sister of "Martha" estimates the quantity of moulded fæces that as passed in a day as a full ordinary amount or rather more. Examination of the abdomen finds nothing abnormal except a distinct doughy feeling in the flanks and lower belly, evidently produced by accumulated retained fæces. The whole upper part of the pelvic excavation, as digitally examined per vaginam, is a hard mass, with deep fissures diverging from what is taken to be the situation of the cervix uteri, which cannot itself be identified precisely. This hard mass is only slightly displaceable upwards and downwards. The discharge is thin, blood-stained, and not fetid. The rectum, as per vaginam, presents a hard rounded mass, as if it contained a scybalum of the size of a hen's egg. The finger passed per anum, after permeating a pouch about one inch and a half in diameter, reaches a tight stricture in the seat of the egg-like swelling. It admits only the tip of the finger, and is situated in the midst of extensive fixed hardness.

This case presents an example to you of an accident which is rare in the diseases of women, except in cases of cancer. It is a curious fact that an ovarian tumor, a pregnancy, scarcely ever cause retention of fæces. When you examine some cases, as for instance two women with fibroids at present in "Martha," you would think it was impossible for fæces to get past the hard tumor jammed into the brim of the pelvis; and yet it is the fact that almost never do you see obstruction of the progress of fæces—such as you see here. Besides malignant disease, as in this case, I do not know any other cause of retention of fæces in women that is worth mentioning, except the scybalum causing ball-valve obstruction of the rectum. That is not extremely rare; I have seen it the cause of very great mistakes. In that case a woman passes liquid fæces round the scybalum; and the cases may go on even for years, never passing a

proper motion; the fæces always escaping in a semi-liquid form. That is not the case here. Here the fæces are positively retained, and are not scybalous; there is no feeling of round scybalous masses, but you feel the woman's belly is really stuffed with semi-solid fæces. In this case you will have noticed that we propose to perform an operation for the relief of the patient's sufferings. Her sufferings are intense from ténesmus, accompanied by actual griping pain of a different kind from the disagreeable feeling of tenesmus. This relief we expect to be able to give her by colotomy. We perform colotomy on this woman because she is suffering a great deal; and because she has, so far as we can judge, the prospect of a considerable span of life yet—I mean a span of life not measured by years, but by a considerable number of months,—and it is surely worth while to let her have the imperfect relief which is afforded by colotomy. But on this I am not going to say anything more to-day.

Before I pass from this subject I wish to point out another very important practical fact, that while retention of fæces is almost solely due to malignant disease, retention of urine (and of this we have illustrated at present in "Martha") is a disease rarely accompanying malignant disease. Retention of urine is common in cases of fibrous tumor of the uterus; it is not common in cases of swellings, however large, produced by malignant disease.

You will notice that when I enumerated cancers of uncertain origin in the pelvis as ten, we called a good many of these pelvic cancer; and I wish to point out what is extremely illustrated in one case in "Martha" at this moment. In that case the whole brim, the whole upper part of the excavation, is a solid mass; and when the case is not one of cancer of the neck of the womb, or rather, when cancer of the womb is not present, you have, if the woman is young, a very difficult diagnosis. Now, what disease is there which is not at all uncommon, which is sometimes chronic, and which makes the whole roof of the pelvis, as in the old woman now in "Martha," like a board? It is chronic perimetritis. Some cases are quite easily diagnosed, but some are extremely difficult to diagnose; and I have often told you that, when you hear of a diagnosis being difficult, that may often be translated as impossible; time alone can enable you to decide in many of these cases whether the

disease is malignant or not. The chief points on which to rely are the age of the woman and the history of the case and the absence of tenderness. Upon these particulars I shall not further enter, only insisting upon the great difficulty that exists in diagnosing pelvic cancer from chronic perimetritis, especially in the case of a young woman. And the difficulty is enhanced by the fact that even in old women perimetritis of all kinds, including perimetric abscess, may complicate the pelvic cancerous disease.

Before I pass from the subject of pelvic cancer I must mention another case accompanied by rather a rare symptom, discharge of *fæces* through the urethra. S. N., aged thirty-six, married, has had two children and six miscarriages. The last child was born fourteen years ago. Was admitted March 8, 1878, complaining of pain in left groin which has lasted for fourteen years, but has been much aggravated the last five months. Micturition is frequent and scanty, and with the urine come occasionally air and *fæces*. The brim of the pelvis is occupied by dense hardness, not tender. On the right side an extension of hardness along the ischial plane and below the cervix, which itself presents no great abnormality. The uterus is fixed in this hardness. Its cavity is of natural length and direction.

This is a case which, if the hardness had the long promontory coming down, along the ischial plane, and other characters which are easily seen, but very difficult to describe verbally, would have been extremely difficult to diagnose from chronic perimetritis, because the woman was not elderly, and recently child-bearing. The diagnosis was corroborated by the passage of air and *fæces* through her urethra. The passage of *fæces* per urethram is a very rare occurrence except in cases of malignant disease of the bowel, and especially the upper part of the rectum and the sigmoid flexure. You are not to suppose that the passage of *fæces* through the bladder is always the cause of much suffering, yet you would naturally think so. It generally only causes moderate suffering; in some cases, as in this, no suffering is mentioned at all. The passage of *fæces* through the bladder sometimes occur in connection with peri or para-metric abscess, ending in intestino-vesical fistula. I have several times seen cases of chronic perimetric abscess where the abscess burst into the bowel and also into the bladder. Such cases

are diagnosed by their history. Let me caution you against a supposition which I have more than once found prevalent in the minds of practitioners of otherwise great experience—that the passage of fæces through the bladder must of itself be fatal. Nothing of the sort. I have known patients with this infirmity live long lives, and die of other diseases quite unconnected with the passage of fæces through the bladder. It is, however, a rare occurrence, and always, on account of the rarity of its connection with anything else, suggests the idea of malignant disease. In the case I have just read, the existence of malignant disease was placed beyond doubt by the circumstances mentioned in the history of the case.

Now I come to a class of cases about which our knowledge is still very imperfect, and which, of late years, is getting more and more isolated, from the general run, from those that would be called of uncertain seat,—cases of cancer of the body of the uterus. This is easily defined. A case is said to be of this kind if you have noticed it sufficiently early and find the body of the uterus affected by the cancer, while the neck of the uterus, so far as it is accessible, is healthy. It is a disease, the rarity of which is exaggerated. Among the thirty-nine cases that I have mentioned, at least four were cases of malignant disease of the body of the uterus. This disease occurs in a variety of forms. I show you, here, first, a magnificent specimen, an extremely rare one, of a uterus presenting diffuse, non-deforming, cancerous hypertrophy of the body of the uterus, the neck remaining, so far as the eye unaided, and the finger, can make out, quite healthy—a rare form of the disease.

The patient, an aged woman, began to suffer pain and think herself ill only about three months before she died. Her complaints were occasional attack of pain in the hypogastrium, and occasional losses of blood per vaginam. She looked healthy for her years. Three weeks before her death she was admitted into the hospital under my care. A mobile, hard tumor, of the size of a foetal head, was felt projecting through the brim of the pelvis into the hypogastrium. It was rounded and not tender. She was seized with ordinary acute suppurative peritonitis, and sank in a few days. Cancerous nodules were found in the lungs and liver. The uterus weighed four pounds and a half, measured eight inches in length, and six inches and a half in breadth. Its cavity, from os tinæ to

fundus, measured six inches. The walls of the body were about an inch thick. Examined by a competent histologist, the structure was declared to be that of hard cancer. Its section resembled that of a scirrhus mamma. The lining membrane of the body was thick and villous, only in some parts destroyed. There was cancerous degeneration of the ovaries; and a similar state of some limited parts of the vagina was discovered after death. The cervix, although healthy to appearance and to digital examination, was discovered by the microscope to be the subject of cancerous degeneration. This case was diagnosed as a case of fibrous tumor of the uterus. If you look into books you will see it justly remarked that one of the points of distinction is that in a case of cancer the womb is fixed, and so it is generally; in this case the womb was quite mobile. Here, also, another usual symptom was absent—there was no fetid discharge. There was bleeding, that is also a symptom of uterine fibroid. In this case the cavity of the uterus was considerably lengthened, and so it often is in a uterine fibroid. In this case there were fits of pain, and these are not uncommon in a uterine fibroid. You are led to suspect that a case is malignant—and at a first visit it is only suspicion—by regarding the history of the case, the age of the woman (and I may remark that the age of the woman is in cases of cancer of the body of the uterus, greater than in cases of cancer of the neck), the presence of an ascitic fluid in the abdomen, and the induration and fixation which sometimes can be made out of neighboring parts, especially of glands. I have done enough to show you how very difficult diagnosis is in a case of this kind.

I have spoken of elongation of the cavity of the uterus, and it is necessary to inculcate special care in making this out in catheterizing the uterus, as it is often called. In all cases of cancer of the uterus is this care demanded, for then the uterus may be easily transfixated or perforated by the probe, and this is not the case with an ordinary or inflamed uterus. Besides, the transfixation involves little or no danger in ordinary cases. I have known it frequently done, in the same case even, without any evil result. Yet it is always a misadventure to be shunned. The peritoneal wound does not gape or bleed in such cases. It is otherwise in examples of cancer of the body of the uterus, and I have seen the fresh specimen

in a case where this gaping wound by the sound proved fatal within a few hours after its production.

Now a few words on the mode of death. A woman with a uterine fibroid is not very rarely affected with chronic peritonitis of various kinds, sometimes causing a collection of peritoneal fluid to occur around it; but this is very much more common in a case of malignant disease of the body of the uterus. In the present case you have another form of peritonitis exemplifying one of the modes of death in cases of cancer that is not very frequently described. Acute peritonitis of all kinds and chronic peritonitis are common with uterine cancer—local peritonitis, general peritonitis, and (the worst of all kinds) the acute suppurative peritonitis, which killed this woman in three days.

Besides peritonitis there are many other forms of death in cancer. It is only a specious concealment of ignorance that leads us to speak, as we often do in cases of cancer, of patients dying from exhaustion. I am very doubtful of that. No patient dies of exhaustion. You may say, "If a patient dies from bleeding, does she not die from exhaustion?" Very well; but that is dying from bleeding—that is not undefined exhaustion. In the same way you find it often stated that patients die of pain. I never saw any body die of pain, and I do not believe it occurs. So cases of cancer are said to end in death by exhaustion, as a man is said to die of old age. The truth, barely stated, is that you do not know of what he died. Now, the chief causes of death in cancer is peritonitis, urinæmia, septicæmia, pyæmia, and complications from diseases of veins or important viscera.

The second form of cancer of the body of the uterus to which I will direct your attention is the nodular—a disease which makes the uterus resemble not a single uterine fibroid, but a group of uterine fibroids; the nodules being different masses of malignant disease, deforming the uterus, almost certainly in this form of the disease fixing the uterus, almost certainly projecting into its interior, frequently bursting through and giving rise to bleeding and other fetid discharge, rarely bursting into the peritoneum and giving rise to fatal peritonitis. This second form of cancer of the uterus is not so rare as the former; and here is a case of it.

M. L., aged 59, has been married for twenty-three years, and has

never been pregnant. Complains of frequent and difficult micturition. Has constant pain in the lower part of the back and in the thighs. Has also a lump in the belly, which she says is increasing in size and has been felt for fifteen months. Her pains are severe at night, and she is rapidly losing flesh. Was in July an out-patient, and then had profuse fetid discharge, which has now ceased. Admitted February 22. A layer of ascitic fluid intervenes between the abdominal wall and the tumor in the hypogastrium. The tumor projects most between the navel and the right spina ili. It is hard and forms part of a large mass, which, projecting from the pelvis, extends to the left side of the hypogastric region. It is only sensitive, not tender. The cervix uteri, not notably altered, is high up and far back in the pelvis, and forms part of a solid hardness, fixed, and occupying the upper part of the pelvic excavation, and easily identified with the tumor felt in the hypogastrium. The bladder is not tender, but contracted, measuring three inches from orifice of urethra to fundus.

This example was easy of diagnosis only because the woman was fifty-nine years of age, at which time you do not get fibrous tumors growing rapidly with much pain as in this woman. There was, for this reason, no difficulty in diagnosing this case. There might have been great difficulty had she been a younger woman, and had we seen the case earlier. Then we should probably have had to watch it for a considerable time, for months, in order to satisfy ourselves as to its nature; but in an old woman, to have a tumor growing rapidly, fixing the uterus, pain always aggravated at night, ascitic fluid in the belly, forms a combination of clear indications.

I come now to other forms of cancer of the body of the womb, cancer of the interior of the body of the womb. I have just mentioned to you cases of ordinary (medullary) cancer of the uterus projecting into its cavity. When this happens—and indeed in all cases of cancer of the body of the uterus—you have to keep in view the distinction recently made (but not proved to be well founded) between the fibrous and the epithelial cancers, between sarcoma and epithelial cancer. A sarcoma of the uterus has nearly the same clinical history as ordinary malignant diseases such as I have been describing. Sarcoma is a malignant disease, only its progress seems to be generally a little slower than that of the ordinary

forms of cancer, and it seems to be in a slight degree more amenable to treatment by removal. But really this distinction of cancers is too recent to have been fully followed out in its practical details.

This great malignant disease of the cavity of the body of the uterus is adenoma, a malignant glandular growth of the mucous membrane. Cases of this kind are not common. The growth bleeds, it distends the cavity of the uterus; fills it up, passes through the cervix, grows into the vagina; and I have seen a case where this malignant adenoma filled the vagina, and before the young woman's death, protruded at the orifice of the vulva, the whole mass being composed of soft adenomatous tissue. In "Martha" we have had a case probably of this kind. It was sent in as an ordinary polypus, but on examining it, superficially even, it was observed to be very soft and fragile. The stalk went right through the cervix into the body of the uterus, and it was made out at the time of operation to be a case of polypus of the body of the uterus, not a fibrous polypus nor a mere mucous outgrowth or vegetation. On microscopical examination it was found to have all the structure of an adenoma. Dr. S. West found in it not only the uterine glands hypertrophied, and constituting the greater part of its bulk, but he also found in the centre of the tumor some muscular tissue; and a like observation has been made in some ordinary mucous polypi. Of this adenoma we have had no example except the polypus I have been describing.

The last malignant disease of the body of the uterus I have to mention is one affecting its cavity, namely, ulceration. The ulceration seems often to follow a previous condition of villosity. The villosity is destroyed, and ulceration takes its place; or ulceration is itself the commencement. This ulceration affects, like all malignant diseases, chiefly the old; and it has, in the vast majority of cases, the history of a malignant ulceration. But some recent investigations throw doubt upon the exact nature of the disease, although they do not remove the malignant character from its ordinary clinical history. I am convinced that, speaking merely clinically, this disease in old women may be cured, if it is attended to early, by cauterization by solution of nitrate of silver of the inner surface of the body of the uterus. I have cured several cases of

this kind where there was copious discharge which was fetid, and copious bleeding; and in some of which I have felt the seat of the disease with my finger, quite easily distinguished from the healthy surface of the uterus. This feeling the seat of the disease has only been done after dilating the neck of the womb by tangle tent. In such cases, of course, the disease is not—as yet, at least—malignant; and I shall say no more of them. In the more severe cases you may try the same treatment; but when they get into this class they are irremediable. The treatment may check the discharge, and produce great temporary improvement of health. The patients die as in cases of ordinary cancer, sometimes with great suffering, and sometimes with little or none; and after death, examination, as I have just said, leaves considerable doubt as to the cancerous character of the disease. In several cases that I have examined lately there was no disease found except the ulceration of the interior of the uterus and that not of distinctly cancerous character. In one which occurred in “Martha,” there was found no evidence of real cancerous disease. In that case the lumbar glands were somewhat enlarged; but in other two cases even this evidence of extension was absent.

Ulceration of the cavity of the body of the uterus is characterized by great pain in some cases, moderate pain in others, and in still others no pain at all. There are bleedings which are sometimes slight and sometimes severe. The discharge is always immensely copious, not always fetid, and may be purulent or ichorous. The uterus enlarges, and, instead of having little more than a potential cavity, may come to have a cavity as large as would contain an orange. The ulceration extends deep into the tissue of the womb and destroys it; it comes to affect the interior of the cervix, leaving the infra-vaginal portion untouched. It sometimes goes on to perforate the peritoneum, and in this way it may prove rapidly fatal; but I have seen, in one case lately, the perforation met by adhesions, so that there was a peritoneal cavity or abscess connected by a fistula with the interior of the uterus. These peritoneal cavities get filled, of course, with the same filthy discharge which fills the interior of the uterus. The disease is easy of diagnosis. If you think proper you may go the length of dilating the cervix, so as to pass your finger in to feel the interior, and you may dilate

the cervix for purposes of treatment—to wash out the interior of the uterus, and to cauterize it, if you think proper, with nitrate of silver or tincture of iodine. In all the cases which I have seen the disease has run a more or less rapid course, ending in death.—*Medical Times and Gazette.*

FAVRE ON CONGENITAL DALTONISM.

M. Favre opposes the theory of Thomas Young, and which was adopted by Helmholtz, that the false appreciation of colors is incurable. He cites in this paper three cases, where by the rational treatment of Daltonism, the subjects were cured. The first case was that of a ship's stoker, aged twenty-one years, who presented the characteristics of grave Daltonism—confusion of red and green, also that of blue and violet. He was exercised four times a week for twenty minutes each time, during March, 1877, and was perfectly cured in May, of the same year. The second case was that of a young child, and the treatment, commenced 5th September, 1855, only terminated 20th March, 1877, after several failures. The third case was that of a man of 30 years, formerly a soldier, who, having been early sensible of the defect in his sight, so well concealed it that, after four years of married life, his wife was unaware of it. This man presented, when he was examined, 6th December, 1876, erroneous impressions of all the colors excepting yellow, which he yet sometimes hesitated to recognize. Practised during a certain time, he gradually, but very slowly, came to distinguish the colors clearly, and in May, 1878, he successfully underwent the tests to which he was subjected. Observations made upon children of both sexes in asylums and infant schools, confirm the very great importance of practicing upon colors in order to develop the chromatic sense.—*The London Medical Record.*


Dr. Louis Elsberg, 614 Fifth Avenue, N. Y., will feel under great obligation to the readers of the JOURNAL, for anything they have written on the Throat or Voice, or for any articles they may deem rare and of importance.

EDITORIAL.

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A SKETCH OF THE STATE MEDICAL ORGANIZATIONS.

The quiet process of development which has worked out in North Carolina such good results, seems to be little known to the outside world. In fact we seem in North Carolina to have been contented with working out our own destiny, seeking little advice from the outside world, and looking only to the reforms which we needed for our own well-being.

Not long after the revolutionary war (1799-1800) the old Medical Society of North Carolina was chartered by the Legislature. So far advanced were they in 1801 that prizes were offered for the cultivation of certain drugs formerly imported—among others, rhubarb in quantities not less than five pounds, opium in quantities not less than five pounds, castor oil not less than a specified amount, &c.

At the same meeting a candidate was presented for membership who, "after being examined in open meeting by the Board of Censors was admitted to membership."

The Society was again revived in 1849, and since, the general movement of the profession in the State, has been steadily forward. In 1859, ten years after the reorganization, the Board of Medical Examiners was created by the Legislature, and it has been in active operation ever since, with the exception of the four years of our civil war.

The provisions of this act are such that "no physician who has commenced the practice of his profession in this State, 'after the 15th of April, 1859, shall practice Medicine or Surgery, or any of the branches thereof, or in any case prescribe for the cure of disease, for fee or reward, nor shall he be entitled to sue for or recover, before any magistrate or court in this State, any medical bill for services rendered.'" (Laws of North Carolina, 1858-59). The profession came to the aid of the Society in this her new departure, and the better class of young men entering the profession were careful to comply with the law. Like all reform laws there have been fluctuations in its career. During the "reconstruction period," dating from 1878, strenuous efforts were made to repeal the law. A well-known politician by the name of Welker, possessing abundant influence to accomplish his designs, actually made a motion to repeal the law, and was only prevented from doing so by the adroit management of Dr. C. Tate Murphy, the most ardent and efficient friend the Medical Society had in the State Senate at that time or at any time.

Singularly enough the estate of Senator Welker was saved from the ravages of a quack by the protection of the very law he attempted to destroy. When Welker died, a large account was presented by a medical man who attended him in his last illness for services; but his claim was refused on the ground that the claimant had no license to practice in the State according to the statute of 1859. Dismayed by the refusal of his bill, he made application to the Board of Examiners for a license, but he was refused upon sufficient testimony, by the Board.

Now another era has opened upon the profession of North Carolina, and as it seems to be little understood, especially outside of the State, we will attempt to explain it.

The new Health Law requires that every county shall have a Board of Health. The local Boards are to be composed of the

members eligible to membership in the State Medical Society, the Mayor of county town, the city surveyor, or where no such officer exists, the county surveyor. To be eligible to membership in this Board, the Doctor must be a licentiate of the Board of Medical Examiners, or have entered the profession anterior to 1859. From this Board one member is to be elected from among the physicians, to be Superintendent of Health. The duties of this officer is to serve the county in the several capacities as physician to the work house, jail, poor house, &c., and make medico-legal post-mortem examinations.

It will be noticed that the license of the Board of Examiners is the test of membership in the State Medical Society as well as the County Society and Board of Health, both county and State, excepting as regards the three members appointed by the Governor. It will be seen by this sketch that in this State we enjoy unusual advantages as a profession, and our capabilities are almost unbounded. The law defines who shall be a legal practitioner, and leaves the decision of the matter to a voluntary society of regular physicians.

A doctor in this State, therefore has no excuse for not being a legal physician, except his own apathy or incompetency. If from apathy, then he may find himself some day the loser in a medical account, the sum total of which may far exceed the small expense incident to obtaining his license. If from incompetency he has no redress, except to collect his fees in advance, and our communities will soon learn to mark these men, and place them in a category that will make any respectable man uncomfortable.

We must not forget though, that obtaining the machinery, accomplishes the work. We are just at the very beginning of our difficulties. Although we have a machine partially of our making, we have not means enough for the central organization.

Without paid clerical aid, no Secretary could begin to do the work contemplated. There are ninety-four to correspond with monthly, and a large mass of material to be collected from these counties to be tabulated and digested. By whom? Of course, by the Secretary of the Board of Health. *The means allowed for this purpose and for postage is two hundred dollars.* Just now this is the important question to solve. Where can be found a medical

man who will give himself earnestly to this work, toiling for two years, in the monotonous drudgery of organization. Very much depends on the selection of this officer; indeed the result of his work for two years, will determine how much additional aid the State will give us in the future.

One part of our machinery is already organized, and the profession may congratulate itself in the alliance of the Agricultural Board with the Board of Health in medico-legal and sanitary investigations. We see how this alliance is going to prove advantageous to both bodies, and we return our thanks for the energetic manner in which the Board of Agriculture have commenced their work.

We are pleased to record that the profession of North Carolina have marked out its own course, and has held so steadily on to it, that a triumphant advantage is within our reach if we will only accept it.

ROKITANSKY ON THE TREATMENT OF AGUE BY PILOCARPINE.

The author's account of the case is published in the *Wiener Med. Jahrbücher*, page 259, 1878. The patient, a young man, aged 22, who was suffering from intermittens quartana, and had been treated during the last twenty-one months for tertiana and quotidiana with quinine, had 16 centigrammes of pilocarpine injected hypodermically. The strength of the solution was two per cent., and it was given two hours before the attack, which was much shorter and slighter than it ever had been before. The next attack due was altogether prevented, but in three days very slight prodromi of a new attack appeared about an hour before their usual time. A fresh injection of two centigrammes was then made, the attack passed away, and there were no more symptoms of fever in the next fortnight. The splenic tumor had also become much smaller, and the patient was dismissed as having entirely recovered.—*The London Medical Record*.

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REVIEWS AND BOOK NOTICES.

A MANUAL OF EXAMINATION OF THE EYES. A course of Lectures delivered at the "Ecole Pratique." By E. LANDOLT, Directeur Adjoint of the Ophthalmological Laboratory at the Sorbonne, Paris. Translated by Swan M. Burnett, M. D., Lecturer on Ophthalmology and Otology in the Medical Department of the University of Georgetown, &c., &c. Philadelphia: D. G. Brinton, 115 South Seventh Street. 1879. Pp. 312. Price \$3.00.

This is a beautifully printed volume comprising twenty-four lectures. The subjects treated of are—"Examination of the Exterior of the Eye;" "Movements of the Eye;" illustrated with a diagram of the anatomical relations; "Movements of the Eye and Prisms;" "Muscular Asthenopia—Tenometry;" "Refraction—The Medical System of Optics;" "Astigmatism;" "The Causes of Ametropia;" "Accommodation;" "The Influence of Age on the Amplitude of Accommodation;" "Acuteness of Vision;" "Practical Examples in the Determination of Refraction, Accommodation and Visual Acuteness;" "Examination of the Perception of Colors;" "Indirect Vision and the Visual Field;" "Ophthalmoscopy;" "Examination of the Erect Image;" "The Inverted Image;" "Determination of the Refraction by means of the Ophthalmoscope;" "Examination of the Fundus in Detail;" "Different forms of Ophthalmoscope."

A chart of the Movements of the Eyes, and their Derangements, giving the physiological anatomy of the visual apparatus is added in the appendix. Also a tabular view of Paralysis of the Muscles of the Eye.

While the treatment of diseases of the eye for the most part is wittingly left to the specialist, there are frequently cases arising in general practice, the diagnosis of which must be made out, in order to determine for the patient whether or not the case should be referred to the specialist.

General practitioners look upon the science of ophthalmology as a department of medicine which they can neglect without any detriment to their professional probity, or on the other hand undertake the routine treatment, of snipping the iris for everything, or of using the vaunted collyria of the last generation without ever making a correct diagnosis.

A better acquaintance with this department would retain many a patient who otherwise go to the "great surgeons," never to return to him as a patron.

REPORT OF THE SUPERINTENDENT OF THE NORTH CAROLINA INSANE ASYLUM. To the Board of Directors. April 1st, 1879. Pp. 47. Raleigh: Observer, State Printer and Binder. 1879.

Of late years the reports of the Superintendent of the Insane Asylum have been largely taken up with arguments for increased facilities, but this year, at least, not without reason.

The last Legislature sent a large committee to examine the affairs of the Asylum, and returned a verdict of excessive expenditure of the people's money in the case of the insane. Not knowing personally the gentlemen who composed this committee, we would not like to pronounce upon their fitness for the task they undertook; but generally speaking a legislative committee would not be as competent to investigate the management of an insane asylum, as the directors chosen carefully by the Governor presumably, for their fitness for the work.

There is no denying the fact that no public institution can count upon a career of unbroken usefulness if subject to the capricious interference by non-medical men, whose residence is only sixty days in the city where such an institution is located. The criticisms upon Dr. Grissom's management may be well taken, but if so it is due to no deeper insight into the workings of the institution than a Board of Directors serving two term of years.

Dr. Grissom shows in his argument that a larger allowance is made for the sustenance of the criminals in the penitentiary than the asylum; if this be so and we see no reason to doubt it, the argument is very damaging to the course of the legislative committees.

We are sure that the economical reform was not begun in the right manner. Without there were legal difficulties in the way, the reformation should have begun with the Board of Directors.

The legislative action whether so intended or accepted, was a blow at the managers, whose servant Dr. Grissom is. How they could have stood the onslaught upon their management without tendering their resignation in a body, is only known to them. It

is a pity, in our way of thinking, that a Board of Directors should be interfered with by a legislative committee in any other way than to regularly impeach them, if the circumstances warrant it. Whatever the law may be, when public servants fail to accomplish the duty assigned to them, they should be removed from office. It is blindness to suppose that reformation can be begun in any other way.

We have no defense to make for Dr. Grissom,—he has shown his rhetorical and logical power in his report—we only want to put on record our opinion that the management of the Insane Asylum should be placed beyond the reach of periodical partisan impulses, and that the appointments and displacements from office should be managed with an eye single to the well-being of none but the unfortunate insane.

There was a time in the history of this asylum of ours, so peaceful and so harmonious, that no one ever dreamed that its quiet could be disturbed. Is there not wisdom enough left in the State to bring us back to that former condition of peace and harmony! If the new régime is a failure, may we not safely try the old with good promise of success?

SPERMATORRHOEA : Its Causes, Symptoms, Results and Treatment.

By ROBERTS BARTHOLOW, A. M., M. D. Fourth Edition. Revised. New York. Wm. Wood & Co., 27 Great Jones Street. 1879. Pp. 128.

This work has grown by the revision and enlargement of a medical journal article, to attain the proportion of a small volume. The author's design has been "to place the subject on a scientific basis, and to divorce it from charlatanism," and the call for a fourth edition is some indication of the favor in which it is held by the profession.

The empirical sharks have taken so much pains to inflame the minds of young men by exaggerating the frequency of the occurrence of spermatorrhœa, and greatly overrating the evil consequences, that they have fattened upon the fees which have poured in from the excited youth. This may account for the very small number of cases of spermatorrhœa coming under the treatment of physicians. It certainly should serve as a warning to medical

men that have been treating the disease too slightly for a number of years, and a perusal of Dr. Bartholow's will convince them of it.

We notice among many new things that Dr. Bartholow recommends *gelsemium* as being powerful in its action on the sexual organs. The tincture of belladonna and the tincture of gelsemium may be prescribed with advantage together. Thus :

R.

Tinct. gelsemii, 3 i.

Tinct. belladonnæ, 3 ij.

M.

S. 15 drops three times a day.

Or,

R.

Tinct. gelsemii, 3 i.

Tinct. cimicifugæ, 3 vij.

M.

S. 30 drops to a teaspoonful three times a day.

Or,

R.

Potassii bromidi, ʒ i.

Extr. gelsemii, 3 ij.

Syr. simpl, 3 vj.

Aquæ cinnamomi, ʒ iij.

M.

S. A teaspoonful three times a day.

TABLE FOR FACILITATING THE CHEMICAL AND MICROSCOPICAL EXAMINATION OF URINE AND URINARY DEPOSITS. For Purposes of Medical and Surgical Diagnosis. Compiled by D. STUART LYON, M. D. Member of the Medical Society of North Carolina. 1879.

Many plans have been devised for the examination of urine for clinical purposes, to bring it within the practical grasp of the general practitioner, who is never a chemist. The tabular method is the only one that seems to fulfil the purpose. Beale's table figure the microscopical and other deposits, and Tyson's work give clearly all the clinical directions, but neither of them give such a system-

atic view of the entire field as will enable the busy doctor to reach a speedy and correct conclusion.

Dr. Stuart has done well in choosing Dr. Piffard's sugar test, as it deserves to be more generally known.

The typographical excellence of the chart is conspicuous and reflects credit upon the *Charlotte Observer* press.

We predict a ready sale for a large edition.

We would suggest as a matter of convenience and durability, that the value of the table for ready reference would be greatly increased if mounted on muslin or cardboard.

ANNUAL REPORT OF THE BOARD OF REGENTS OF THE SMITHSONIAN INSTITUTION for the year 1877.

It will no doubt be a useful hint to some of our readers to call their attention to articles of interest in this volume.

The article on "Color-Blindness in its Relation to Accidents by Rail and Sea," is by F. Holmgren, Professor of Physiology at the University of Upsal. The article will prove of interest not only to medical men, but to those having the management of steam travel. This paper is followed by another by the late lamented Prof. Joseph Henry on "Color-Blindness."

Several papers on American Antiquities are of general interest, and the one on the "Climate of New Mexico," by Surgeon McParlin, and "Short Memoirs on Meteorological Subjects," will be sure to be prized by the large number of medical men who are just now paying renewed attention to the subjects treated.

We are indebted to ex-Senator Merrimon for this and other favors, for which he has our thanks.

THOMPSON ON NIGHT COUGH.

Dr. Reginald E. Thompson calls attention in *The Practitioner*, March, 1879, p. 174, to the value of Joy's cigarettes in this troublesome affection, which appears to be often merely an undeveloped and modified form of asthma.—*London Medical Record*.

AN ACT—SUPPLEMENTAL TO AN ACT CREATING A
STATE BOARD OF HEALTH.

The General Assembly of North Carolina do enact;

SECTION 1. That the Medical Society of North Carolina shall choose from its active members, by ballot, six members, and the Governor shall appoint three other persons, (one of whom shall be a civil engineer), and these shall constitute the North Carolina Board of Health.

SEC. 2. That the North Carolina Board of Health shall take cognizance of the health interest of the citizens of the State; shall make sanitary investigation and enquiries in respect to the people; the causes of diseases dangerous to the public health, especially epidemics; the sources of mortality; the effects of locations, employments and conditions upon public health. They shall gather such information upon all these matters for distribution among the people, with the especial purpose of informing them about preventable diseases. They shall be considered the medical advisers of the State, and are herein specially provided for, and shall advise the government in regard to the location, sanitary construction and management of all public institutions, and shall direct the attention of the State to such sanitary matters as in their judgment affect the industry, prosperity, health and lives of the citizens of the State. The Secretary of the Board shall make annually to the General Assembly, through the Governor, a report of their work for the year.

SEC. 3. The members of the Board of Health as elected by the the State Medical Society, shall be chosen to serve, two for six years, two for four years, two for two years. Those appointed by the Governor shall serve two years. In case of death or resignation the Board will elect new members to fill the unexpired terms.

SEC. 4. The State Board shall have a President and Secretary, who shall be Treasurer, to be elected from the members comprising the Board. The President shall serve two years, and the Secretary and Treasurer six years. The Secretary and Treasurer shall receive _____ a year for his services, but the other members of the Board shall receive no pay, except that while on actual duty at meetings of the Board, or on duty during the time special investigations are being pursued, that each member shall receive \$2.00 a day and necessary travelling expenses. These sums shall be paid by the Treasurer on duly authenticated requisitions signed approved by the President of the Board.

SEC. 5. There shall be an auxiliary Board of Health in each county in the State. These Boards shall be composed of the physicians eligible to membership in the State Medical Society, the mayor _____ of county town, the chairman of County Commissioners, and the city surveyor, where there is such an officer,

otherwise the county surveyor. From this number one physician shall be chosen by ballot to serve two years, with the title of Superintendent of Health. His duties shall be to gather vital statistics upon a plan designated by the State Board of Health. He shall make the medico-legal *post-mortem* examinations for coroner's inquests, and attend prisoners in jails, poor-houses and work-houses. Their reports shall be made regularly as advised by the State Board through their Secretary, and they shall receive and carry out as far as practicable such work as may be directed by the State Board of Health.

SEC. 6. The salary of the county Superintendent of Health is to be paid out of the county treasury, upon requisition and proper voucher, as follows: The salary of the Superintendent of Health shall not exceed the amount paid by the city or county in 1878, for services rendered by the city or county for medical services to sick in jail, work house and poor house, and medical examinations for coroner's inquests.

SEC. 7. The organization of the North Carolina Board of Health shall be completed immediately after the passage of this act, and not later than six months after the passage of the same. The biennial meetings for the election of officers shall, after the meeting of organization, be for the county Boards on the first day of January, and of State Board of Health on the first day of annual meeting of the Medical Society of North Carolina.

SEC. 8. Monthly returns of vital statistics upon a plan to be devised by the State Board of Health, shall be made by the County Superintendents, and a failure to report by the tenth of the month for the preceding month, shall subject the delinquent Superintendent to a fine of one dollar for each day of delinquency.

SEC. 9. Inland quarantine shall be under the control of the county Superintendent of Health, who acting by the advice of the local Board, shall see that diseases to the public health, viz.: small pox, scarlet fever, yellow fever and cholera, shall be properly quarantined or isolated, (at the expense of the city or town in which it occurs). Any violation of the rules promulgated on this subject by the Superintendent of Health shall subject the offender to a fine of twenty-five hundred dollars and imprisonment for not longer than twenty days in the county jail. In case the offender be stricken with disease for which he is quarantinable, he will be subject to the penalty on recovery, without, in the opinion of the Superintendent, it should be remitted: Quarantine of ports shall not be interfered with, but the officers of the local and State Boards shall render all aid in their power to quarantine officers in discharge of their duties upon request of the latter.

SEC. 10. ABATEMENT OF NUISANCES.—Wherever and whenever a nuisance upon premises shall exist, which in the opinion of the county Superintendent of Health is dangerous to the public health, it shall be his duty to notify the parties occupying the premises,

(or the owner of the premises if not occupied), of its existence, its character, and the means of abating it, in writing. Upon this notification the parties shall proceed to abate the nuisance, but failing to do this, shall pay a fine of one dollar a day, dating from twenty-four hours after the notification has been served: *Provided, however,* that if the party notified shall make oath or affirmation before a magistrate of his or her inability to carry out the directions of the Superintendent, it shall be done at the expense of the town or city. In the latter case, the limit of the expense chargeable upon the town or city shall not be more than one hundred dollars in any case.

SEC. 11. VACCINATION.—The Secretary of the State Board of Health shall keep a supply of fresh animal vaccine virus at his command, and he shall issue quantities, in value not to exceed one dollar for one requisition, to county Superintendents in case of a threatened outbreak of small pox. The county Superintendent^s shall vaccinate and re-vaccinate all applying for such service, free of charge, the virus of such purposes to be furnished by the Secretary of the State Board of Health at market rates. The county Superintendent shall vaccinate every person admitted into a public institution, (jail, work house, poor house, public school), as soon as practicable, without he is satisfied upon examination that the person is already successfully vaccinated. On the appearance of a case of small pox in a neighborhood, all due diligence shall be used by the Superintendent that warning shall be given, and all persons not able to pay, to be vaccinated free of charge by him. The vaccine for this purpose shall be paid for by the corporation in which the Superintendent serves.

SEC. 12. Bulletins of the outbreak of diseases dangerous to the public health shall be issued by the State Board whenever necessary, and such advice freely disseminated to prevent and check the invasion of disease into any part of the State. It shall also be the duty of the Board to inquire into any outbreak of disease, by personal visits or by any method the Board shall direct. The expenses [compensation] of members on each duty shall be five dollars a day, and the necessary travelling expenses.

SEC. 13. Special meetings of the State Board of Health may be called by the President, through the Secretary. The regular annual meetings shall be held at the same time and place of the State Medical Society, at which time the Secretary shall submit his annual report.

SEC. 14. When the county Superintendent of Health shall in the course of his investigations required at coroner's inquest, think it necessary to subserve the ends of justice that a chemical analysis of the *viscera* or fluids of the body be made, he shall carefully pack up and seal the suspected article in a proper receptacle in the presence of a witness and forward it to the chemist of the agricultural station for analysis. (Such analysis shall be made, free

of charge, and be returned to the coroner of the county, such analysis having precedence over other matters of investigation not of a similar character, then in the laboratory of the chemist). Analysis for purposes connected with the hygienic duties of the Superintendent of Health shall in like manner be made by the said chemist, upon requisition signed and approved by the Secretary of the State Board of Health. Such analysis will include soil, drinking water, article of food, air, &c., to be packed for transmission by direction of the chemist of the agricultural station.

SEC. 15. For carrying out the provisions of this act two hundred dollars is hereby annually appropriated, to be paid on requisition signed by the Treasurer and President of the State Board of Health, and the printing and stationery necessary annually for the Board be furnished on requisition upon the State printer. A yearly statement shall be made to the Legislature of all moneys received and expended in pursuance of this act.

SEC. 16. All previous acts conflicting with this are hereby repealed upon the passage of this act.

Ratified the 14th day of March, 1879.

COUTISSON ON CANTHARIDINE.

(*Thèse de Paris*, 1878).—If a mixture consisting of 10 centigrammes of cantharidine, dissolved in 10 grammes of chloroform, is painted on the skin, congestion of the part follows rapidly from a quarter of an hour to half an hour, and according to the epidermis being more or less resistant, blisters form in five or six hours. They increase during six or eight hours or more, then remain stationary for from twenty-four to thirty-six hours, and are finally reabsorbed. The sensation experienced is not so much one of pain as of heat or of burning; this absence of severe pain makes cantharidine one of the least painful vesicants. Another peculiarity of this drug is the tendency to promote the excretion of a great quantity of albumen. Dr. Laboulbène has utilized the irritant properties of cantharidine for removing *nævi* which disappear under its use, without leaving any traces beyond a slight scar.—*The London Medical Record*.

CURRENT LITERATURE.

YELLOW FEVER—RELATIONS BETWEEN THE ORGANIC AND LIVING CONSTITUENTS OF THE ATMOSPHERE TO THE MICROSCOPICAL AND CHEMICAL CHANGES OF THE BLOOD IN YELLOW FEVER.*

Dr. Jones' lectures on the above topics show that he was a close student of disease, notwithstanding heavy drains upon his time, by sickness in his family as well as the extra duties incident to the epidemic.

The first experiment narrated is an examination of the condensation of the yellow fever atmosphere. About 600,000 cubic centimetres of air from sleeping apartments. Deaths had occurred in one of the rooms. The air was subjected to the treatment night and day.

The water from a front room in which no case of the fever had occurred was perfectly transparent, while that from the yellow fever rooms in the same building was turbid, and milky, and let fall a considerable deposit.

"When the water from the yellow fever rooms was subjected to microscopical examination, the following extraneous matters were observed :

"1st. Numerous minute particles, many of which had a vibratory motion. Under a magnifying power of 420 diameters, with Beck's best 1-5th of an inch (a superior glass of excellent defining power) these appeared as minute oval specks. Under 1-18th of an inch (1050 diameters) these particles were resolved into distinct oval cells with a central nucleus, resembling in all respects the spores of delicate fungi.

"2d. Bacteria and delicate thread-like filaments, similar to those observed in the urine and in the blood of yellow fever.

"3d. Revolving minute animalculæ and spores, with active rotary movements.

"4th. Minute particles which could not be resolved into dis-

*Notes from advance sheets of Lectures by Prof. Joseph Jones, M. D., of New Orleans, on the Yellow Fever Epidemic in 1878. New Orleans Medical and Surgical Journal, April and May, 1878.

ting structures by the highest powers. When magnified 1050 diameters, these resembled mere specks of matter, many of which have an active vibratory motion.

“ 5th. Epithelial cells.

“ 6th. Particles of dust evidently inorganic in their nature.

“ 7th. Oil globules. As the patients were well rubbed with olive oil, the oil globules may have in part been derived from this source ; but as oil increases in the blood and in certain organs, as the liver, heart and kidneys, during the progress of yellow fever, I was disposed to refer a portion of the oil globules to the diseased bodies. It is possible that oil might be exhaled from the pulmonary surface in small quantities during the progress of the disease.

“ 8th. Hairs and particles of cotton and sheep wool from the clothing and bedding of the patients with numerous adherent spores.

“When the liquid from the yellow fever rooms was evaporated a distinct deposit was left in the watch glasses and upon glass slides, which, in addition to the various organic substances specified, contained numerous stellate and acicular and prismatic crystals and granular particles. The crystals appear to be those of the chloride and carbonate of ammonia. Reaction of water slightly alkaline.

“ The presence of organic matter was still farther shown by the usual chemical tests, as charring by heat, blackening by sulphuric acid, and decoloration of the solution of the per-manganate of potassa.

“ When glass slides were moistened with ice cold water and held so as to receive the breath of yellow fever patients in respiration, the microscopical examination yielded results similar to those recorded above.

“ After the most minute examination of the individual specimens from the different rooms in Mr. Harrison's house, not only immediately after the experiments, but also during various periods, embracing nearly six months, I discovered no forms which could be referred to such microscopical plants as the *Chlorococcum vulgare*, *Protococcus viridis*, *Palmella cruenta*, *Coccochloris brebinonii*, and other confervoideæ, or unicellular algæ capable of producing chlorophyl. Certain granular cells observed in malarial fever (in the blood), resemble most nearly the resting spore of *Bulbochæte inter-*

media, and the granular cells of *Palmella cruenta*; but no such cells were observed in the yellow fever atmosphere in the brick house 363 Magazine street. In fact it would be difficult to conceive how the algæ of any description could thrive and multiply in this well paved and dry situation. The forms were referable to those most nearly connected with putrefaction and fermentation, as the Bacteria and Torulæ, Penicillius and Micrococci and Cryptococceæ. Kützing includes his genera *Cryptococcus*, *Ulvina* and *Sphærotilus*, amongst the families of algæ, but they appear to be the conidia (reproduction cells, stylospores and spermatia) of the mycelia of mildew fungi. The absence of any of the known forms of the algæ in the air of yellow fever collected in this locality, which is as free from any source of swamp malaria as the best drained and paved portions of the city of New Orleans, is important in that this class of plants is thus excluded from the consideration of the questions relating to the origin and causation of yellow fever.

“Experiments upon Living Animals with the Water, through which the Yellow Fever Atmosphere had been passed, in the Brick Residence, 363 Magazine Street.

“The liquid obtained by passing the air of the rooms in which the yellow fever patients lay through ice and ice-cold water, was conveyed immediately to my laboratory, and injected subcutaneously into eleven rabbits and into two pigeons. In several of the rabbits the water was injected directly into the blood, through the large vessels of the ears. In the pigeons, the liquid was injected into the pectoral muscle. No rabbit was destroyed by these procedures, although abscesses formed in several places in different animals, in the neighborhood of the points of injection, and in such instances the animals manifested febrile phenomena. A pregnant female rabbit gave birth to four living rabbits several days after the experiment.

“The mother appeared to have no milk, and although we attempted to rear the young ones by artificial means, they perished; the mother, however, survived and is still living and has since given birth to thirteen rabbits, seven at one time and six at another.

“One of the pigeons was killed by a cock in my yard, about ten days after the injection of the ‘yellow fever water’ into the left pectoral muscle. Upon dissection, I found the pectoral muscles on

the left side to be atrophied and in a state of acute fatty degeneration. Upon microscopical examination I found that some of the fibres of the blanket covering the yellow fever patient had been injected along with the water into the pectoral muscle.

"Two views may be taken as to the effects produced upon this bird :

"1st. The fibres of the blanket acted as a local irritant, and induced degeneration and atrophy of the muscular tissue.

"2d. The granular matter and spores of the yellow fever atmosphere induced chemical changes in the muscular structures, which were converted into oil.

"The latter supposition is at least worthy of consideration, as the yellow poison induces rapid fatty degeneration of the heart, liver, and kidneys. It is also worthy of note, in this connection, that the granular matter possessing active motion, as well as the sporules, of the yellow fever atmosphere, are found in greatest abundance adhering to the fibres of cotton and wool condensed in the water.

"The other pigeon was killed at the end of two weeks, and found to be healthy."

Dr. Jones comments upon two cases of yellow fever, the clinical record of which he gives in full, as follows :

"The two preceding cases clearly illustrate the fact that the febrile heat is not *the disease in yellow fever*, and that its reduction even to the standard of health, does not necessarily secure a favorable result."

This seems to us a most important clinical fact to bear in mind.

* * * * *

In one locality 1,800,000 cubic centimetres of air were passed through crushed ice and ice cold water during the day, and also at midnight. The air presented the same elements as already described in the previous examination, with the addition of several colored cells which evidently belonged to the plants resembling the *chlorococcum vulgare*, *protococcus viridis*, and *palmella cruenta*.

The waters obtained from this locality in the way mentioned were injected subcutaneously into living animals with results similar to those already detailed.

Careful drawings were executed of the objects discovered in the "yellow fever water," and preserved for comparison.

After relating further investigation the following opinion is given, which seems to be a fair resumé of the author's view of the causal relations of the microscopic objects :

"The demonstration by the microscope of numerous living organisms (spores of plants, bacteria and animalculæ), and of minute animal and vegetable particles in the yellow fever atmosphere, and the fact, also, that these minute bodies are found in greatest abundance, in the meshes of the particles of wool and cotton floating in the sick room, is important, as it illustrates the mode in which the contagium of the disease may be propagated and wafted from house to house, and across considerable spaces. In this view it is not necessary to regard the micrococci and criptococci, bacteria and spores, and minute particles, as the *essential causes* of this disease, although in the countries and under the circumstances in which yellow fever prevails, they are *necessary companions of the yellow fever contagion, and may take part in its elaboration, during certain putrefactive changes, and may be the vehicles of its propagation through the atmosphere and of its preservation and concentration in spongy fabrics as cotton and woolen clothing.*"

We will not follow Dr. Jones further in his important investigations, but commend his patience and industry, and fairness to the consideration to all engaged or about to engage in similar pursuits.



EUONYMUS ATROPURPUREUS AS A MILD CATHARTIC.

Fluid extract of this plant given in doses of half a drachm to a drachm, according to the individual susceptibility, acts as a gastric tonic, cholagogue and mild cathartic, and usually within two hours after its administration. Its action is unattended by nausea, griping, or any debilitating influences. The stools resulting indicate presence of bile, and of the feculent secretion of the intestinal follicles. It does not cause like podophyllin, violent vermicular motions of the stomach and bowels, thereby producing nausea, griping and large discharges of gelatinous mucus, through irritant action. It is preëminently the most unobjectionable of cathartics

to overcome habitually loaded abdominal viscera, not, however, in acute exacerbations, but in those of more lingering character. Especially is it of eminent service when, from a variety of causes, hepatic and intestinal torpor are conjoined. In these instances it should not, of course, be given more than once daily, and in amount sufficient to produce not more than one or two evacuations. Continued use does not habituate and blunt the system to its energy, consequently the dose not require to be increased; in fact, as a rule, rather decreased.—Dr. J. R. Black in *Med. and Surg. Reporter*, April 19th, 1879.

[*Eunonymus atropurpureus* is scarce in this State. It goes by the common name of "burning bush," and differs from the well-known *euonymus Americanus*, "strawberry bush" in being larger in every way, and in the color of the seed-vessels being purple instead of scarlet.—Eds].

Euonymus Americanus—or rather the resinoid euonymin has been in great repute with the eclectics for some time. We have borrowed one good friend in the resinoid podophyllin from our irregular friends, and there is no reason why we should not continue to do so.

GENERAL CONCLUSIONS FROM THE FAMILY EPIDEMIC OF DIPHTHERIA IN THE GRAND DUCAL FAMILY OF HESSE DARMSTADT.

1st. Father and mother ought to be most strongly advised by their medical men not to allow their children to be kissed on the mouth by friends and occasional visitors.

2d. Acute and chronic affections of the mucous membrane of the pharynx and tonsils in children ought to be much more energetically treated than is the rule at present. A *restitutio ad integrum* takes place much more rarely at the time of puberty than is the general belief. A chronically swollen, folded, and uneven mucous membrane is much more prone to receive and retain the germs of infection, of whatever nature they may be, than a healthy one.

3d. A long-continued and repeated exposure to influences of contagion does not give immunity against infection, whilst the fatigues, anxieties, and exertions undergone by physicians, relations, and nurses, render them even more prone to be finally attacked by the disease. The patient is not free from the danger of communicating the disease to other persons until the mucous membrane of the throat is actually restored to the normal state. Caution in every respect ought, therefore, to be exhibited up to the last by physicians and nurses, nor ought other children to be brought back too soon to the infected house.

4th. A very severe form may attack a patient who has become infected by another who has himself suffered by it slightly, and *vice versa*. Great caution is, therefore, necessary in pronouncing any prognosis.

5th. We are not in the possession of any really specific remedy against the disease.

6th. As we cannot vanquish the disease itself, we must combat its manifestations, and the causes which might conduce a false termination. Those are, mainly, local obstructions, high temperatures, with succeeding exhaustion of the vital powers, septic poisoning, and heart failure.

7th. Even if repeated failures shall occur, these principles must be adhered to at present, and the treatment must be a very active one. Few diseases require such energetic and permanent measures as diphtheria.

8th. The precise indication for the moment when tracheotomy should be performed, is given by the recession of the patient's chest-walls. Increased care is called for after this performance. Mechanical clearing of the tube and of the interior of the larynx should alternate with inhalations through the tube, and the tendency to form membranous deposit has died out.

9th. The pharyngeal pseudo-membranes ought never to be removed violently, as a forcible removal only facilitates a more rapid and deeper penetration of the septic poison in the tissues. Nothing but hot steam inhalations, to which antiseptic medicaments may be advantageously added, should be employed in order to produce quicker separation and expulsion of the pseudo-membranes.

10th. The most important general treatment must consist in

maintaining the patient's strength, by the administration of large doses of alcoholic stimulants, nutritious diet, and of iron, whilst the high temperature and the threatening septic infection of the system are combatted by the administration of quinine, salicylic acid, hydrate of soda, &c., &c.—*London Medical Record*.

THE PHYSICS OF CONCEPTION.

Exceedingly important results in relation to the changes which the ovum undergoes before and after impregnation have been recently obtained in Germany by Bischoff, Van Beneden, and others, who have examined the condition of the egg under these circumstances in the frog, rabbit, and amongst the invertebrata, in certain fresh water leeches and asterids. These results have been shortly described by Dr. Whittaker, who shows that the single cell of which the egg primitively consists may undergo a process of division (segmentation) before it has been brought into contact with the spermatozoa. As soon as a cell is ready for division, its nucleus becomes greatly elongated and spindle-shaped, whilst a number of radiating lines appear on its surface. Each one of these lines shows in its middle a thickened portion composed of five granules which collectively form a plate, the so-called nucleus plate or middle plate. At the same time a clear drop of cell plasma, or fluid, separated from the protoplasm, appears at the end of each thread. These clear drops are the first intimation of the latter nuclei of the two cells—daughter cells—into which the original cell divides. The protoplasm of the cell arranges itself so as to give rise to the appearance of rays, which extend outwards from the bright drops. Two wheels, one from each end of the elongated nuclear plate, are thus formed, being held together by the body of the nuclear plate in the middle of the whole cell. In the meantime, the nuclear plate has commenced to divide across the middle, so that each half includes one of the wheels. The middle of the nuclear plate then gradually disappears, and the two nuclear plates fuse with the bright

protoplasmic drops. At the same time the protoplasm becomes constricted by a furrow which cuts through, and the two cells are complete. In the egg, all the outer covering consists of mucus derived from the genital tracts along which the ovum has passed. Through this mucous layer the spermatozooids pass by their innate mobility to effect impregnation. A disproportionately large number—71 to 80—of spermatozooids surround each ovum; but it is only the individual spermatozoid which accidentally strikes the egg in a line with the radiated arrangement of the mucous covering which first reaches the yolk. At the moment when this penetration is effected, the yolk suddenly projects an elevation towards the head of the spermatozoid. The projection of the yolk surrounds the head of the spermatozoid, and draws it rapidly into the interior of the ovum. The point of entrance is marked by a slight depression, in place of the elevation at the surface of the yolk, and at the same instant a fine, delicate, but very resistant membrane immediately covers the whole surface of the yolk, thereby preventing the penetration of other spermatozooids. The tail of the spermatozoid disappears after it has gained an entry into the yolk, and the head alone remains. About this head clear drops of protoplasm associate themselves to constitute the so-called sperm nucleus. The sperm nucleus then moves towards the egg nucleus, touches it, and fuses with it. The resultant nucleus is, therefore, composed of both male and female elements; it is the essential product of impregnation, and the whole egg represents a new organism resulting from the union of the two ancestral forms. The further process of development of this simple organism consists in the fact that the nucleus undergoes the same metamorphoses as have been already described for the primitive cell. Thence arise from the single cell two, four, eight, sixteen, and so on, until the original cell is subdivided into a mass of small daughter cells, which arrange themselves into three layers to form ultimately the whole complicated organism. In the case of eggs provided with a proper zona pellucida, an opening, the micropyle, exists for the entrance of the spermatozoid. The cell wall is often penetrated also by fine radiating canals, which are closed by prolongations into them of the yolk.—*London Medical Record.*

FAQUHARSON ON EVIL EFFECTS OF ARNICA.

Dr. Farquharson, in a lecture on the various drugs that cause cutaneous irritations during their administration, or external use, published in the *British Medical Journal*, February, 1879, p. 223, says, "of all the occasional offenders of this sort against comfort, and even life, is arnica, which is commonly resorted to by the ignorant public as a sovereign remedy for sprains. It is pretty generally recognized among medical men, no doubt, that it now and then produces erysipelatous inflammation of the skin; but book-knowledge of this sort makes little impression, in comparison with the observation even of a single case. Professor Hebra is one of the most persistent and strenuous opponents of arnica, and I well remember his vigorous denunciation of its evil effects, from the text of a very acute inflammation of both hands, for which it was responsible, and where the skin was covered with huge blisters, and almost running into gangrene. A year or two ago, I had the opportunity of seeing a typical case, in the person of an old lady to whose sprained arm, a non-professional nurse had applied a weak solution of arnica, contrary to my advice. A true erysipelas started from the point of application, and slowly spread all over the body, causing much irritation, discomfort and depression, and greatly retarding her recovery from what would have been otherwise, a comparatively trifling injury. * * * My advice to you is, to let the drug take its rightful place among those substances of extinct reputation which still continue to sleep peacefully in the pharmacopœia."—*London Medical Record*.

METHOD OF PROCEDURE IN CASES OF SUSPECTED POISONING.

LABORATORY OF THE N. C. STATE EXPERIMENT STATION,
CHAPEL HILL, April 24th, 1878.

To the Coroners and County Superintendents of Health of the State of North Carolina:

I beg to call attention to Section 14 of "An Act Supplemental

The exercises were opened with prayer by Rev. Dr. Gwinn, Pastor of the First Baptist Church, of Atlanta. After the prayer, the President announced that Dr. J. P. Logan, of Atlanta, would, on behalf of the Committee of Local Arrangements, deliver an address of welcome. Dr. Logan was received with applause.

At the conclusion of the address the announcement of the list of registration of members by the Committee on Arrangements was made. The following list of members was read by the Secretary.

PENNSYLVANIA.

A. M. Pollock, Pittsburg; J. C. Jones, Lackawana; James Ross, Clarion; R. J. Dunglison, R. A. Cleiman, F. Woodbury, Philadelphia; S. Buttermore, Cornettville; James King, Alleghany City; W. B. Atkinson, Philadelphia; H. Isaac Jones, Scranton; S. D. Gross, A. Fricke, Philadelphia; Silas M. Blenham, Pittsburg; John K. Lineaweaver, Columbia; John V. Shoemaker, A. H. Smith, Philadelphia; L. M. Shillito, Alleghany City.

ALABAMA.

S. M. Hogan, Union Springs; R. L. Butt, Midway; P. D. Baker, Eufala; James Marshall, Troy; James J. Winn, Clayton; J. P. Furmiss, Selma; C. H. Franklin, Union Springs; E. H. C. Bailey, Demopolis; W. A. Crossley, Troy.

MICHIGAN.

E. S. Dunster, Ann Arbor; Wm. Brodie, Detroit; H. C. Wyman, Blissfield; Thomas N. Reynolds, Detroit; J. H. Jerome, Saginaw City; G. K. Johnson, Grand Rapids; A. M. Bucknum, Jackson county; Foster Pratt, Kalamazoo; R. C. Kedzie, Lansing; J. A. Brown, Detroit; A. Borrowman, Detroit; C. H. Lewis, Jackson; L. Cannon, Detroit; T. A. McGraw, Detroit; A. R. Stuart, Hudson; L. Conner, Detroit; Nelson J. Packard, Sturgis; D. O. Farrand, Detroit; James A. Brown, Detroit.

MARYLAND.

John S. Lynch, Baltimore; A. L. Gihon, Annapolis; P. H. Bailhache, Baltimore; T. C. Maddux, Baltimore; Thos. B. Evans, Baltimore; E. Lloyd Howard, Baltimore; John Morris, Baltimore; J. A. White, Baltimore.

SOUTH CAROLINA.

P. A. White, Anderson C. H.; J. F. Prioleau, Charleston; E.

A. Aiken, Winnsboro'; F. P. Porcher, Charleston; T. J. Croft, Aiken; E. N. Talley, Columbia; E. R. Turnipseed, Columbia; John Lynch, Columbia; J. P. Chazal, Charleston; C. H. Ladd, Winnsboro'; J. M. Thompson, Silver Street.

NORTH CAROLINA.

Eugene Grissom, Raleigh; W. Gleitsmann, Asheville; Frank Duffy, Newbern; Thomas F. Wood, Wilmington.

NEW JERSEY.

Samuel Lilley, Lambertville; Stephen Pierson, Morristown; J. N. Quimby, Jersey City; D. C. English, New Brunswick.

WISCONSIN.

J. K. Bartlett, Milwaukee; O. W. Wright, Milwaukee; D. F. Boynton, Mendota; E. L. Griffin, Fondulac; J. T. Reeve, Appleton; S. Marks, Milwaukee; George W. Jenkins, Kilburn City.

KANSAS.

C. V. Mottram, Lawrence.

FLORIDA.

George W. Betton, Tallahassee; John P. Wall, Tampa.

MAINE.

A. J. Fuller, Baltimore; Alonzo Garcelon, Lewiston; T. J. Estabrook, Rockland.

IOWA.

W. F. Peck, Davenport; Horace B. Ransom, Des Moines; J. C. Hughes, Keokuk; Thos. S. Parr, Indianola.

MASSACHUSETTS.

Charles F. Folsom, Boston; L. F. Warner, Boston; Jos. H. Warren, H. O. Marcy, Cambridge; Azel Ames, Jr., Wakefield.

MISSISSIPPI.

W. D. Carter, Ripley; John Brownrig, Columbus; John S. Fertherstone, Macon; J. S. Cain, Chickasaw; J. H. Blanks, Meridian; George S. Ellis, Boonesville; E. Paul Sale, Aberdeen; H. O. Gant, Water Valley; A. G. Smythe, Baldwyn; W. F. Taylor, Boonesville.

ILLINOIS.

H. A. Johnson, Chicago; N. S. Davis, Chicago; Wm. A. Byrd, Quincy; W. H. McNary, Martinsville; George W. Nesbitt, Sycamore; J. K. Berkebile, Millstadt; Moses Gwinn, J. H. Rauch, Chicago.

OHIO.

Starling Loving, Columbus; John A. Murphy, John M. Lacey, A. E. Heighway, E. Williams, Cincinnati; Jonathan Morris, Ironton; W. W. Dawson, Cincinnati; H. B. Ransom, Burlington; A. E. Westbrook, Ashley; Thomas Wood, Cincinnati; W. H. Mussey, Cincinnati.

NEW YORK.

E. Seguin, New York; S. O. Vanderpoel, Stapleton; Montrose A. Pallen, Stephen Smith, Alfred C. Post, Oliver White, New York; Jesse Reynolds, Pottsdam; Allert Van Deveer, Albany; M. H. Burton, Troy; Henry D. Didama, Syracuse; L. A. Sayre, New York; A. N. Bell, Garden City; Herman Knapp, New York; Thomas F. Rochester, Buffalo; H. R. Ainsworth, Addison; L. D. Bulkley, Walter R. Gillette, New York.

MISSOURI.

T. B. Lester, A. B. Sloan, Kansas City; Wesley Humphrey, Mexico; Henry H. Mudd, A. J. Sieele, Wm. C. Glasgow, A. P. Lankford, F. W. Wessiller, St. Louis; A. E. Donelan, St. Joseph; B. G. Dysart, Paris; J. M. Richmond, St. Joseph.

ARKANSAS.

P. A. Hooper, Little Rock; R. B. Christian, Fulton; W. B. Welch, Boonsboro'; W. W. McAlpine, Helena; W. B. Lawrence, Baterville; A. R. Horner, Helena; Edward Cross, Little Rock; D. A. Linthicum, Helena; J. J. Jones, Jr., Little Rock; W. H. Hawkins, Rocky Comfort; J. H. Lenow, Little Rock; J. B. Cumming, Forrest City; R. N. Ross, Lonoke; J. A. Dibrell, D. H. Dungan, Little Rock; R. C. Goodwin, Marvell; W. J. Matthews, Forest City; J. M. Lacy, Cincinnati.

TEXAS.

G. Dowell, Galveston; Joe S. Willis, Waco; H. W. Brown, Waco; J. B. Adair, Cedar Creek.

LOUISIANA.

S. E. Chaillé, New Orleans; E. A. Pope, New Orleans; A. W. DeRoaldes, New Orleans; S. E. Lewis, New Orleans; S. L. Henry, New Orleans; J. G. Richardson, New Orleans.

CONNECTICUT.

C. W. Chamberlain, Hartford; Chas. W. Page, Hartford.

MINNESOTA.

John W. Murphy, St. Paul.

RHODE ISLAND.

Job Kenyon, Providence; Chas. H. Fisher, Providence.

GEORGIA.

J. P. Logan, H. V. M. Miller, J. G. Westmoreland, A. R. Alley, W. T. Goldsmith, W. S. Armstrong, Atlanta; J. W. Bailey, Gainesville; V. H. Taliaferro, Atlanta; L. A. Dugas, Jos. A. Eve, Augusta; S. H. Gray, Forsyth; J. E. Cook, Culloden; John M. Johnson, Atlanta; Geo. M. McDowell, Barnesville; W. H. Forwood, W. F. Westmoreland, Atlanta; A. E. Dugas, Augusta; Hiram Smith, Augusta; R. J. Bruce, A. P. Taylor, Thomasville; A. W. Calhoun, Atlanta; Wm. D. Hoyt, Rome; J. B. Roberts, Sandersville; H. F. Scott, George G. Crawford, T. S. Hopkins, E. L. Connelly, Atlanta; G. F. Cooper, Americus; Henry F. Campbell, Augusta; Robert Battey, Rome; J. F. Banks, Griffin; Wm. O'Daniel, Ballard's Station; P. H. Wright, W. F. Holt, Macon; H. Perdue, Barnesville; R. M. O'Reiley, Atlanta; A. S. Campbell, Augusta; J. S. Todd, Atlanta; George J. Grimes, Columbus; W. A. Love, Atlanta; E. J. Roach, Atlanta.

DELAWARE.

W. Marshall, Milford; Charles H. Richards, Georgetown.

DISTRICT OF COLUMBIA.

J. S. Billings, J. M. Toner, J. J. Woodward, Thomas J. Turner, Washington.

KENTUCKY.

Dudley S. Reynolds, J. M. Bodine, Louisville; Irwin Keller, Anchorage; B. L. Coleman, Lexington; P. Thompson, Henderson; E. F. Russell, Elkton; T. B. Grenley, Ored; H. M. Skillman, Lexington.

VIRGINIA.

J. L. Cabell, Charlottesville; S. C. Gleaves, Wytheville; J. E. Chandellor, Charlottesville; J. S. Tipton, Hillsville; H. M. Nash, Norfolk; Alban S. Paynes, Markham; L. B. Edwards, J. McD, Massie, Richmond.

TENNESSEE.

Duncan Ewe, Nashville; D. J. Roberts, Hendersonville; E. M. Wright, Chattanooga; J. J. Harrison, London; J. P. Park, Knoxville; R. M. Mitchell, Memphis; J. A. Draughan, Nashville; John L. Atlee, Athens; W. F. Hape, Frederick Painter, Chattanooga; A. H. Voorhees, Memphis; J. H. VanDeman Chattanooga; Thos. Mences, W. P. Jones, W. T. Briggs, Nashville; W. T. McReynolds, Clarksville; J. D. Plunkett, Nashville; J. M. Boyd, C. Deaderick, A. B. Tadlock, Knoxville; B. B. Lenoir, Lenoir's; H. J. Warmonth, Smyrna; J. J. Pulliam, LaGrange; S. D. Sims, Chattanooga; Thomas Lipscomb, Shelbyville; R. W. Mitchell, Memphis.

INDIANA.

George B. Walker, Evansville; R. Q. Haggerty, Elkhart; J. S. Gregg, Joseph R. Beck, Fort Wayne; Thomas S. Parr, Indianola; J. C. Smythe, Green Castle; T. Parvin, Indianapolis; J. H. McIntyre, R. Winton, Muncie; D. A. DeForest, Brownsville; S. J. Young, Terra Haute; Lewis Williams, Marion; A. G. Porte, Lebanon; M. Sexton, Rushville; J. H. Helm, Peru; Thomas H. Lane, Lebanon; J. H. McIntyre, J. F. Hibberd, Richmond; J. S. Dodge, Bristol; W. R. McMahon, Huntingburgh; J. R. Weist, Richmond; Benjamin Newland, Bedford; J. H. Davisson, Warsaw; G. W. Fitch, Logansport; C. W. Burket, Warsaw; H. G. Jones, Evansville; S. S. Boyd, Dublin; John E. Link, Terra Haute; Wm. Lomax, Marion; H. D. Reasoner, New Cumberland; J. W. F. Gerrish, Seymour; William M. Holton, New Harmony; M. H. Bonnell, Lebanon; A. M. Owen, Evansville.

Protests against the registration of certain delegates were announced from Arkansas, Indiana, and West Virginia.

On motion of Dr. Davis, of Chicago, the recommendation of the Committee of Arrangements on matter of visiting and permanent members were adopted.

The annual address of the President, Dr. Theophilus Parvin, of Indianapolis, was then delivered. The address was beautiful throughout, and was full of deep thought and analytical philosophy of medical science. Its glowing periods were delivered with a feeling which held the closest attention of all who heard it. It was enthusiastically applauded in many places, and left an impression that will not soon fade. We cannot omit the conclusion of the address which was as follows :

Since we last met together, less than a year ago, hundreds of our profession have fallen victims to the pestilence that walked in darkness and wasted at noon day in so many of the cities of the south. Some of those who thus fell to their efforts to save their fellow-beings from swift death, were in the meridian of their powers and of professional success. Others were in the fair morning, with the promise of long years and the hope of high honors. Can we believe that these heroic men live only for the memory of their friends ? From all the martyr-memories of noble men and women in every age, who counted not their lives dear unto them when principle was at stake, or in sublime self-abnegation sacrificed their lives for kindred, for country, for humanity, there comes a solemn protest against denial of life beyond the grave.

Accepting gratefully all the facts of science, let us beware of rejecting everything that may not be capable of mathematical demonstration, and compelling our assent to absolute necessity. There may be truths more important, but less open ; whisperings of hope that are sure promise of fruition. The poet tells of the sea-shell when, its polished lips shaken and applied to your attentive ear :

“ And it remembers the august abodes,
And murmurs as the ocean murmured there.”

So we may hear the deep but distant murmur of the immortal sea as it beats against the shores of time, ready to bear upon its mighty bosom the children of men from life to life, and the law of continuity be found as true of the spiritual as it is of the material world.

Happy for us, though unlike the Thrainmo, we hold no festivities over the dead, if with something of the glad dream of hope, if not

in the glory of triumph, we can adopt the familiar words of our great American poet :

“ There is no death ! what seems so is transition ;
This life of mortal breath
Is but a suburb of the life elysium
Whose portal we call death.”

Dr. Brodie, of Detroit, moved that the Convention return its thanks to Dr. Parvin for his eloquent address, and that a copy of it be requested for publication. The entire Association rose in answer to this request amid loud applause.

On motion of Dr. Logan, the ex-Presidents of the Association were invited to seats on the stage. In response, Dr. Davis, of Chicago, Dr. Gross, of Philadelphia, Dr. Richardson, of New Orleans, and Dr. Toner, of Washington, came forward and took seats on the stage. Dr. Fuller, of Maine, presided during this stage of proceedings.

Some papers on various medical topics and experiments were offered and referred to appropriate sections.

Dr. Seguin, of New York, presented the report of the Committee on the Metric System. The report briefly sketched the success of the system and offered in conclusion a resolution declaring that the Association adopt the metric system, and that in future all correspondents adopt it, and that druggists and physicians endorse and promote its popular use. The adoption of the report and resolutions was moved.

The motion to postpone the consideration of the report was carried.

An amendment to the Constitution providing for the consolidation of the Sections on Medical Jurisprudence, Chemistry and Psychology and the Department of State Medicine and Public Hygiene was adopted. The Section was placed as number four.

Several inquiries as to the eligibility of members to seats in the Association were referred to the Judiciary Council.

Dr. Keller offered an amendment that the Committee on Nominations be restricted in present members.

Dr. Davis rose to a point of order that the amendments were not in order the first day. The point was ruled well taken and the Convention adjourned to nine and a half o'clock to-day.

AFTERNOON MEETINGS.

In the afternoon the various Sections of the American Medical Association met in different halls to discuss questions of particular importance to each of the six branches of the science, as it is divided in the economy of the Association. The following are synoptical reports of the proceedings of each of the five Sections. The fourth and fifth were combined, so there were five instead of six Sections :

SECTION NO. 1.

Practice of Medicine, Materia Medica and Physiology, Dr. Thos. F. Rochester, Buffalo, New York, Chairman ; Dr. W. C. Glasgow, St. Louis, Missouri, Secretary.

The Section was called to order by the Chairman.

The business in order was the reading of a paper whose author was absent ; therefore this paper was postponed.

Dr. Davis, of Chicago, read a paper on Clinical and Meteorological records. The doctor showed a thorough knowledge of his subject. His paper was referred to Committee on Publication.

Dr. J. P. Logan, of Atlanta, presented a paper for Dr. Denison, of Denver, Colorado. Subject, Experience of Consumptives in Colorado, and some of the Aero-Hygienics of Elevation above the Sea, with conclusions.

After the reading of the paper was commenced, it was, on motion of Dr. Davis, of Chicago, postponed until 3 o'clock P. M., Wednesday.

Section adjourned to meet in Opera House at 3 o'clock Wednesday afternoon.

There was quite a small attendance at this Section yesterday afternoon.

The hall will be crowded this afternoon, as there are some important papers that will be presented.

SECTION NO. 2.

Section 2d. Obstetrics and Diseases of Women and Children—Dr. E. S. Lewis, of New Orleans, Louisiana, Chairman. Owing to the resignation of Dr. Chadwick, the former Secretary, this position was left vacant. Dr. Marcy, of Massachusetts, nominated Dr. Robert Battey, of Georgia, and he was unanimously elected. Read-

ing of papers was next in order. Dr. Robert Battey read a paper on Tubo-Ovarian Pregnancy—(case); operation, 5th month—death. Electrolysis of Fibroids, by Dr. E. Cutter, of Massachusetts—Dysmenorrhœa, by Dr. W. H. Byford, of Illinois.

The reading of these two papers were deferred until to-day—the 7th. The regular business being concluded the presentation of voluntary reports were in order. Dr. Dunster, of Michigan, spoke of the operation of perineoraphy, and his views were very favorably received. The gentlemen in this discussion were Dr. M. A. Pallen, of New York; Dr. King, of Pennsylvania; Dr. Albert Smith, of Pennsylvania; Dr. Greenfield Dowell, of Texas; Dr. Taliaferro, of Georgia; Dr. Beverly Cole, of California, and Dr. Theophilus Parvin, of Indiana.

Dr. Pallen, of New York, presented a number of pessaries for the treatment of uterine displacements.

Dr. Henry F. Campbell, of Georgia, presented a modified stem pessary for the treatment of uterine flexions. Dr. Taliaferro participated in the discussion of the stem pessary. Dr. Love wished to participate, but owing to the lateness of the hour proposed to postpone any further discussion until to-day.

Section adjourned until to-day at 3 o'clock.

SECTION NO. 3.

Surgery and Anatomy—Dr. Moses Gunn, of Chicago, Illinois, Chairman; Dr. J. R. Weist, of Richmond, Indiana, Secretary.

The chair appointed the following sub-committee: Dr. Briggs, of Nashville, Tenn.; Dr. Dawson, Cincinnati, Ohio; Dr. W. F. Westmoreland, of Georgia.

Reading of papers was next in order.

Dr. A. Post, of New York, read a paper on Deformities of Face and Hands occasioned by cicatricial contraction following a burn, with reports of cases successfully treated. The report was very favorably received and showed the great advancement made in surgery. The following gentlemen participated in discussing the paper: Dr. Quimby, Jersey City, New Jersey; Dr. Brigg, Nashville, Tenn.; Dr. Dawson, Cincinnati, Ohio. A paper was read by Dr. H. O. Marcy, of Massachusetts, on Aspiration of Knee-Joint, with cases. The paper received great attention. The following gentlemen discussed it:

Dr. Boyd, of Quincy, Illinois ; Dr. A. C. Post, of New York ; Dr. S. D. Gross, of Philadelphia. Dr. E. B. Turnipseed, of South Carolina, read the following papers : New Surgical Needle, Curved and Spring Clamp at Point ; New Apparatus for Treating Fracture of the Clavicle, with cases ; New Method of Reducing Dislocation of Elbow-Joint, with cases. They were discussed by Dr. Dodge, of Indiana ; Dr. Hughes, of Iowa ; Dr. Gross, of Philadelphia ; Dr. L. A. Sayre, of New York ; Dr. Dawson, of Ohio ; Dr. A. C. Post, of New York ; Drs. Glenn and Briggs, of Nashville, Tenn.

All the papers having been read it was in order for voluntary communications. Dr. C. V. Matham, Lawrence, Kansas, read a paper on a Report of a Case of Chronic Dislocation of Hip Joint. Dr. Dawson, of Ohio, showed some specimens of stones.

Adjourned to meet to-morrow evening at 3 o'clock.

[To be continued.]

TO OUR READERS.

WARM WEATHER AND ITS EFFECTS.

Many people, especially ladies, complain at this season of the year of a general weakness or debility—the use of Speer's Port Grape Wine prevents this—the Wine is said to have a most wonderful effect in giving strength, vigor, and tone to the whole system—it is extensively used by ladies nursing, or about to nurse infants. This wine is not a manufactured article—no liquor is added to it. It is no patent medicine, or cordial humbug—but is a superior Wine of the Oporto Grape. It is a pure, old, unadulterated Wine, nothing more or less. Mr. Speer has been supplying hospitals with his wine for twelve years past. It is said to be unsurpassed for summer complaints, and for weakly persons. The price is low for so excellent a Wine, and no family need be without it. Salesroom, 34 Warren Street, N. Y.

COLDEN'S LIEBIG'S LIQUID EXTRACT OF BEEF.

By WILLIAM ALEX. GREENE, M. D., Macon, Ga.

It is impossible to estimate how much is due to improved and skilled Pharmacy of the present day for the increased efficiency of our remedies, especially of that class of remedial agents, known as Nutritive tonics and stimulants. From their action on the digestive organs it would appear that the more nearly Tonic Medicines, approximate to the aliment which would be the most easily digested, and the most decidedly nutritious, the greater the influence they would possess. They should never be of a nature to produce any inordinate excitement, for the reaction or exhaustion that would follow upon the stimulus would be more hurtful than any beneficial influence they could exert. It is a slow, steady and uniform operation that is required; and the greater the delicacy of the constitution for which we are called to prescribe, the more careful must we be in the *quality, quantity*, and mode of operation of our food, tonics and stimulants. Colden's Liebig's Liquid Extract of Beef and Tonic Invigorator is recognized and prescribed by the leading physicians of the North and in the South as just the remedy to fill all these indications. It is composed of the purest Extract of Beef (Liquid), without any fat, bone or sinew, and after Prof. Liebig's process, together with, and in addition to, Iron, the Alkaloids of Cinchona, Gentian, Pure Wine and Aromatics. It is not a Patent or Proprietary Medicine, as all physicians are furnished with formula if desired. There are many Beef Extracts in the market, but none contain the important and essential properties of *this* preparation, which makes it, at the same time, a nutritive tonic, stimulant and alterative. Since the invention of the "Extract of Meat" by Liebig, there has been much discussion, *pro* and *con*, concerning its physiological action and nutritious value. But the practical uses which have been made of the invention speaks in high favor of its great value and importance; neither have we waited in vain for the experimental demonstration that *this* extract is capable of replacing the valuable nutritious parts of meat. Liebig's Extract consists essentially of two kinds of chemical substances, namely: Mineral Salts, mostly of Potash and extractive matters of meat, and that it is essentially promotive in the formation of the blood and tissues, and exercising also an exciting influence upon the activity of the heart. It may not be uninteresting to be informed that this valuable Liquid Beef Preparation was produced at the solicitation of the German authorities just before the late "Franco-Prussian War," and that it proved of immense service during the severe campaigns of that war, being sufficiently strengthening to sustain the soldiers under circumstances when *solid* food could not be obtained, and in cases among the sick and wounded it proved an unspeakable blessing. To bring results of this valuable *liquid*

preparation nearer home, I will state that I have tested its virtues and efficiency in my *private practice* in cases of general *debility* and *depression* of the *vital* organs, when medicine had proven more than useless; also in cases of Dyspepsia and the multitudinous Nervous Afflictions resulting from it, with complete loss of appetite and constipation of the bowels, and particularly when Delicate Females, ever the unfortunate subjects of such troubles—often with infants to nourish. I have found it the best remedy I have ever used in *Chronic Alcoholism*, when the stomach is always irritable and food required to nourish and invigorate the drooping strength and nervous depression, at the same time appeasing the thirst for more alcohol. This preparation of T. Colden's must not be confounded with the ordinary Liquid Extracts of Beef made by druggists generally, the fault of which is, that they are made from meat which has undergone *Chemical Changes* and rank, as Dr. Newman has remarked; only as stimulants. But this preparation submitted to the medical profession is Citrate of Iron, Alkaloids of Cinchona Flava, Extract of Gentian with Extract of Beef (Baron Von Liebig process), flavored with aromatics, and is a *stronger* extract than we ever get in drug stores according to ordinary formulæ. This is a reliable preparation, and supplies a want as an invigorator and *nutritious food* tonic long desired by the profession. Any information or samples cheerfully furnished by addressing T. Colden, Baltimore, Md., or Branch Depot, Liebig Beef Extract Co., Newburg, N. Y. Green & Flanner, Wilmington, N. C., are the agents.

BOOKS AND PAMPHLETS RECEIVED.

Opium as a Tonic and Alterative, and its Hypodermic Use in the Debility of Amorosis.

Training School for Nurses. No. 1. 1879. Circulars of information of the Bureau of Education. Washington: Government Printing Office. 1879.

Spermatorrhœa: Its Causes, Symptoms, Results, and Treatment. By Roberts Bartholow, A. M., M. D. Fourth Edition. Revised. Wm. Wood & Co., 27 Great Jones Street, New York. 1879.

North Carolina Assembly Sketch-Book. Session of 1879. By J. S. Tomlinson. Raleigh News Steam Book & Job Office. 1879. Pages 152.

Report of the Superintendent of the North Carolina Insane Asylum, to the Board of Directors. April 1st, 1879. Raleigh, N. C. 1879.

Table for Facilitating the Chemical and Microscopical Examination of the Urine and Urinary Deposits for Purposes of Medical and Surgical Diagnosis. Designed for Students and Practitioners of Medicine. Compiled and Arranged by D. Stuart Lyon, M. D. Member of the Medical Society, N. C., etc. 1879.

To Physicians.

In order to facilitate the introduction of the metric system, as well as to furnish a convenient pharmacological table, we have published a VISITING LIST DOSE BOOK in which the doses are given both in the metric and the apothecaries' weights and measures. It is light and neatly bound in flexible silk covers, so that it may be carried in the visiting list or pocket without inconvenience. This little book renders the use of the metric system easy and attractive even to old practitioners. All physicians interested in the advancement of our science are urged to aid us in placing this little book in the hands of the profession, not only by sending for it themselves but by ordering it for their friends. Sent free on receipt of six cents in postage.

Address,

THE METRIC CLUB, 637 West Adams St., Chicago.

NOTICE.

HENRY KIMPTON;
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Begs to inform the Profession that by depositing cash £1, £2, £3, £5, £10, or £20, or sending Remittances with orders, they may have Books forwarded to them at the full reduction. Books, Periodicals, etc., can be sent to any part of the United States or Canada, by post for 8d per pound, and there is no duty on articles sent in this way, so that books are delivered carriage paid and duty free in the United States at less than published prices (with few exceptions). Cash may be remitted by Draft on any London House. Small amounts by Post Office Order. Balance placed to credit.

Foreign Books, Periodicals, etc., supplied

Reference to Dr. T. F. Wood, Editor.

NORTH CAROLINA BOARD OF HEALTH.

—o—

The meeting of organization, under the law enacted by the last General Assembly, will take place in Greenboro, on the 20th day of May, 1879. Six of the nine members to compose the new Board are to be elected by the members of the Medical Society of North Carolina, and from the active members of that body. The full text of the new law will be ready for distribution by the day of meeting.

THOS. F. WOOD, M. D.,

Secretary State Board of Health.

Wilmington, N. C., March 20th.

NORTH CAROLINA MEDICAL JOURNAL.

M. J. DeROSSET, M. D.,
THOMAS F. WOOD, M. D., } Editors.

Number 6. Wilmington, June, 1879. Vol. 3.

CORRESPONDENCE.

OUR PARIS LETTER.

*The Disappearance of the Plague—Death of Professor Gubler—
Changes at Salpêtrière—Improved Pathological Facilities at the
Morgue—Labordes Studies of Intra-Venous Injection of Milk—
A New Anæsthetic—Bucquoy's Lectures on the Treatment of
Pneumonia—M. Féréal on Treatment of Neuralgia of the Fifth
Pair—Dr. Roberts Bartholow.*

11 RUE NEUVE DES CAPUCINES.

PARIS, April 25th, 1879.

To the Editors of the North Carolina Medical Journal:

GENTLEMEN :—My predictions in regard to the *plague* have been promptly verified. The disease has entirely disappeared, quarantine regulations have generally been relaxed ; and the public mind has regained its wonted tranquility. As precautionary measures, however, the Sanitary Department of the Volga has determined to maintain the special cordon around the infected district for some

time longer ; to retain the medical staff under its present organization up to the 27th of July ; to enforce a strict supervision of the villages and fisheries within the contaminated area ; and to establish at various convenient points small hospitals and dispensaries with reference to future contingencies.

Of the foreign Medical Commissioners who were sent to the province of Astrakhan to study the disease, nearly all have returned, and are now devoting themselves to the preparation of their reports, which will doubtless prove not less interesting than valuable to the medical world. It is greatly to be regretted that our own government did not send Commissioners likewise ; for, in the event of a general European epidemic of this malady, we could not reasonably hope to escape its visitation, and as there are many medical men in the United States whose services in this regard would have reflected honor upon their country and conduced materially to a thorough knowledge of the disease.

This year has been especially fatal to French medical men. *Professor Gubler* is the last member of the profession whose death is announced. About six months since he withdrew from practice and teaching, and sought an asylum near Toulon, hoping that the balmy air of that locality would restore his failing health. He and his many friends were greatly encouraged by the apparent improvement which was thereby effected, and it was confidently believed that he would soon return to his post, in the full possession of his strength, and with many years of usefulness and honor before him.

The intelligence of his death has, therefore, caused great surprise among his colleagues, and confrères, and has added much to the poignancy of their grief. Gubler was only 58 years of age, and as a teacher, author, and practitioner, ranked among the most distinguished of his times. His disease was cancer of the stomach.

M. Delasiauve, the distinguished alienist, has resigned his position at Salpêtrière, and *M. Legrand du Saulle* has been appointed to succeed him. It is said that the government was desirous of giving to Dr. Delasiauve some tangible proof of its estimation of his valuable services, but, that, rejecting the proposed honors, he simply asked as a recompense the privilege of inspecting and

directing at his convenience the studies of the little idiot girls in the institution over which he has so long presided.

In a report which M. Brouardel, chief of the Bureau of Legal Medicine, has just made to the Procureur of the Republic, some valuable suggestions are made in regard to the *Morgue*. He proposes to employ cold to maintain a temperature of 0 Cent. in the hall of exposition—as a means of preserving the bodies exposed there for identification; and, also to substitute for the flag stones upon which the exposure is now made, tables enameled with sheet iron so arranged as to secure any desired inclination. He also favors the construction of distinct chambers for microscopical examination, chemical analysis, and physiological experiments, and the organizations of a museum and a library in connection with the establishment. For these improvements he asks an appropriation of a sum of 52,000 francs, and as the nation is rich, and the republic is liberal it is more than probable that his suggestions may be carried out.

An epidemic of *small-pox* has shown itself in the Faubourg St. Antoine and in the densely populated sections of La Roquette, and La Chapelle, which has excited some apprehension in the public mind. Since the beginning of the year, 190 deaths have occurred from this disease—33 of which were reported during the last week. For a number of years Paris has been singularly exempt from visitations of variola; and, as a consequence, a sense of security has developed itself which has led to a neglect of precautionary measures in this regard, and fostered a condition of things which has already favored the eruption of the disease, and may now increase the difficulties of its eradication. With a proper enforcement of the laws in regard to vaccination, the thorough segregation of the infected, and the adoption of a rigid and adequate sanitary system, I think I shall be able to chronicle in my next letter the arrest of the epidemic, if not the entire disappearance of the disease.

The experiments which have been made in New York in relation to the *Intra-venous Injection of Milk* have attracted much attention here, and have elicited no little comment. Dr. Laborde, who has given the subject great attention, has just published the result of his observations, in this connection, upon inferior animals. He made his experiment especially on dogs and frogs, those on the

former being more relied upon because of the higher rank of the animal in the scale of organization ; but still not being regarded as sufficiently conclusive to influence ordinary practice upon human beings. After having abstracted a certain amount of the blood of the animal, he supplied its place with milk, which in many cases answered perfectly well—producing no disturbance of the economy and securing the proper performance of its functions. He, however, discovered one important fact, viz. : that a limit to the quantity injected is very soon reached. Thus, for instance, a dog weighing eleven kilos, cannot support the introduction of more than ninety grammes of milk. Calculating, therefore, by proportion; the maximum quantity which can safely be injected into the system of a man of average weight, is only four hundred and fifty grammes. When these quantities are exceeded, according to this observer death ensues from the formation of small coagula which dam up the small vessels, arrest the circulation and induce death very speedily. I give these statements for what they are worth—as a part of the history of this special mode of medication—without attempting to criticise or to approve them.

The French journals contain an account of the successful employment of Professor Bert's new *anæsthetic*, which consists of nitrous oxide 85 parts, and oxygen 15 parts, under tension. Professor Labbé, the distinguished surgeon of Larboisière, having occasion to remove an ingrowing toe-nail, carried his patient to the "Ærotherapic Establishment" of Dr. Daupley, and administered the anæsthetic in a chamber, the atmosphere of which had been compressed to 92 centimetres. After the lapse of a few seconds the patient became perfectly insensible, and the operation was performed and the dressing completed, without the slightest manifestation of pain at the time or the development of any unusual symptom afterwards. Under ordinary conditions this mixture of nitrous oxide and oxygen produces no effect upon the economy, while its employment under tension results in the speedy development of an anæsthesia which is profound enough to render surgical operations painless, and of so innocent a character as to preclude the possibility of a dangerous complication.

At the Hospital Cochin, M. Bucquoy has been giving some interesting lectures on the treatment of *pneumonia*. Although he does

not hesitate to recommend the lancet in some cases, his great reliance is upon antimony. In all cases of pneumonia which are attended with intense and decided febrile reaction, without catarrhal or bilious complications, he prescribes *tart. emetic* in decided doses, given every hour, without regard to the vomiting or nausea it may produce. Under this treatment, the respiration becomes freer, the pulse is controlled, the temperature is lowered the skin grows moist, and the kidneys act freely. So soon as a disposition to tolerance is manifested, he diminishes the quantity of antimony ; and, if a tendency to debility appears, he gives immediately, alcohol very liberally. Sometimes, when the temperature is inordinately high and the pulse unduly excited, he associates digitalis with antimony ; and in the catarrhal form of the disease he discards the *latter* and relies entirely upon the *former*—giving it in very large doses through successive days. In these cases of pneumonia which present adynamic symptoms, he prescribes alcohol, upon the principle that “a certain amount of force is indispensable to the process of resolution,” but not to the ridiculous excess advocated by Todd and his admirers. By reason of its rapid absorption, its extreme diffusibility, and its specially stimulating action upon the nerve centres, it, more than any other remedy, fulfills the indication which presents itself in this regard, and demands the consideration of the physician. As regards local remedies, he recommends in the *first stage*, liberal use of cups ; in the *second stage*, the employment of poultices, sinapisms, the tincture of iodine, &c., and finally—especially when resolution goes on tardily—the application, and reapplication of large blisters upon the affected side.

M. Féréal, of the Hospital Lariboisière, read at a recent meeting of the Academy of Medicine, an interesting paper upon the treatment of *Neuralgia* of the fifth pair, by ammoniated sulphate of copper. In a number of cases of this terrible malady, which had defied all other remedies and which were distinguished by the most aggravated symptoms, prompt and permanent relief followed the administration of the following prescription :

Distilled water, 100 grammes.

Syrup of orange flowers, 30 grammes.

Ammoniated sulph. copper, 0.10 to 0.15 cgr.

M. To be taken within twenty-four hours with the food.

In one instance the dose was carried up to 60 centigrammes in twenty-four hours without inconvenience to the patient, save slight gastric pain and some diarrhoea. The ordinary dose, however, is from 10 to 15 centigrammes, which should be regularly administered for fifteen days; even though the pain may have disappeared in the meantime.

Results so striking and attested by such high authority deserve the best consideration of the profession, and should at once be practically tested by all who have to deal with this form of neuralgia. In my own practice five grains of croton chloral with twenty drops of the tincture of yellow jessamine mixed in an ounce of sweetened water, have proved of decided efficacy in the paroxysms of this disease, and I have great confidence in them.

I have read with great pleasure the announcement of the election of Dr. Roberts Bartholow, of Cincinnati, to the Professorship of Materia Medica in the Jefferson Medical College of Philadelphia. As an Alumnus of that institution and one of its warmest friends, I feel specially gratified by this election, since I recognize in it the source of still greater honor and usefulness to my Alma Mater. Upon both sides of the Atlantic, Dr. Bartholow is recognized as one of the leading medical minds of his country; while as a teacher and a clinician he has long shown those qualities and attainments which specially fit their possessor for a leading rôle in some great school, such as that with which his name and reputation are hereafter to be associated.

Very truly and respectfully yours,

EDWARD WARREN, (BEY) M. D., C. M.

Dr. Murchison of London is dead. "It is with great regret we record the sudden death of Dr. Murchison, who had been twice a victim to scarlet fever, had suffered somewhat severely from aortic disease of the heart for some six or seven years past, a sequel upon the fever. On Wednesday last, after parting with a patient, he stooped to open a lower drawer in his consulting room, and without any immediate premonitory symptom his heart ceased to act, and within a few minutes he was found dead."

ON THE EMPLOYMENT OF "SUCTION APPARATUS" IN
MEDICINE AND SURGERY.

By F. PEYRE PORCHER, M. D., Charleston, S. C.

Setting aside the utility of the aspirator, the use of which I have had experience in paracentesis of the chest, for the removal of pleuritic effusion, employing it also, once for paracentesis of the pericardial sac, (See New York *Medical Record*, September, 1878), and for the exploration and emptying of a vomica in the lung. I pass on to speak of other forms of "suction tubes."

Having read in a medical periodical of a method of removing dropsical effusions by a large size hypodermic needle, to the free end of which was attached an india rubber tube, I used one of these instruments successfully in removing a considerable amount of fluid from the cellular tissue of the leg in a case of anasarca. In this case the point of the hypodermic needle is inserted into the tissues and the water is thus drained off—none escaping outside of the needle, or wetting the bed. I had often applied the larger trocars of the aspirator to remove dropsical or peritoneal fluids from the abdomen; but there is danger of the point of the instrument wounding the intestine, as the walls of the abdomen collapse when the fluid is gradually drained off. Since then, I engaged Mr. Rheinhard to make for me needles larger than those in the ordinary hypodermic cases; to these are fitted trocars which remain in whatever portion of the body they are inserted—the needles being withdrawn. To the free extremity of the trocar, which is of wood, several feet of $\frac{1}{4}$ of an inch india rubber tubing is attached.

In cases of dropsy of the extremities, I have, in 24 hours, drained off eight quarts of fluid without injury to the patient. It is all quietly transferred to a basin on the floor. I have also employed them twice for dropsies of the scrotum and twice to remove hydrocele. In the latter instance less pain is caused by the use of such comparatively fine trocars.

Recently I have extended the employment of such instruments; as, for example, using the hypodermic syringe to remove pus from buboes. In three cases of purulent accumulation, two on the leg, and one where a considerable amount had collected in the axilla of a young lady, from a softened scrofulous gland.

In each and all of these instances the success was perfect and there was an entire avoidance of the knife and the tedious suppuration, granulation and healing which are ordinarily required. I shall use such instruments, specially the hypodermic syringe hereafter to give early, painless and ready exit to purulent deposits in the breasts of nursing women and I hope much for this procedure.

It is almost needless to remark that in the case of the young girl who was relieved of the matter which had gathered in the axilla, as soon as the hypodermic needle is passed into the collection, suction is exercised and the body of the instrument becomes filled—the body of the instrument is unscrewed from the needle which remains in the tumor and the matter which has been drawn out is then emptied, and this process is repeated until the sac is emptied.

PREPARATION OF IMITATION KUMYS.

Fill into a strong champagne bottle, good, fresh, unboiled cow's milk to such a height that after the addition of 30 grammes (1 oz.) of granulated or powdered sugar, and after corking, there would still be left at least an inch of empty space below the cork. Before corking, add a piece of fresh compressed yeast, a teaspoonful of good beer yeast may be taken. The contents of the bottle are well shaken, repeatedly, then the bottles are placed in the cellar, where they are turned up and down a few times during the day. From and after the fifth day the mixture is ready, and may be drunk to about the twentieth day. It is best to prepare about six bottles full at a time, refilling each after it has been emptied and cleaned, so that the treatment, after being begun, may not be interrupted. On opening the bottles, the contents are very apt to foam over, hence the bottle should be opened while being held over a plate. It should never be opened where there may be any furniture or dresses about, which might be soiled by spattering.

A good milk wine or kumys should have a homogeneous appearance, of the consistence of thin cream, should be effervescent when poured out, of an acidulous, agreeably vinous odor and taste, and should not be full of lumps, or taste like butter milk.

On first using kumys it produces loose bowels, but this effect soon passes off.—*Pharm. Zeit.*—*New Remedies.*

SELECTED PAPERS.

ON COLOR-SIGHT AND COLOR-BLINDNESS.*

By J. R. WOLFE, M. D., F. R. C. S. E.

(*Concluded from page 304*).

Color-blindness may be either—

- 1st. Total inability to discern colors (Achromotopsy) ;
- 2nd. False vision of colors (Chromato-pseudopsis) ; or
- 3rd. Difficult or blunted perception of colors; (Dyschromatopsy).

The first kind is very rare. Professor Wilson records a case of a house-painter, in whom the perception of black and white was all that existed to represent the color-sense.

In all other subjects of chromato-pseudopsis there is either an inability to discern a single-color, such as red and green. Blindness to violet and its varieties is less frequent. In my examinations I have only met with one case where neither blue nor violet could be seen in the spectrum. Cases of bluntness of perception, on the other hand, are of comparatively frequent occurrence. It is only right, therefore, that the public should be impressed with the fact, that, taking the *ensemble* of all the varieties, color-blindness is of more common occurrence than is generally supposed. Indeed, when I commenced to investigate the subject, I was astonished to find the number of cases which obtruded themselves, as it were, upon my notice.

When I asked a friend of mine (a solicitor) to introduce me to the railway company to obtain information with regard to railway signals, he informed me that he himself was color-blind. I had met him frequently in town, and in the country on fishing excursions and when collecting heather, without ever suspecting such a defect. On examination, I find his sight normal. Looking into the spectroscope, he sees only blue ; the rest looks like a glare of fire when seen through transparent gauze. He can name black, blue, white, and yellow, but no other color. His eyes get sore when he looks upon a bright-colored object, such as a carpet. Pale green he calls white ; green he can only guess at ; dark green, he cannot

*Read before the Glasgow Philosophical Society, March 5, 1879.

say what it is, but if pressed he would say it was black. Here, therefore, is a case of inability to discern both green and red—he is green and red blind. He has a brother who was engaged in a wholesale warehouse and was put into the silk department, where he committed such blunders in regard to colors that he had to leave the trade, and he is now head engineer of an Atlantic line of steamers.

When I asked Dr. Cumming and Dr. Pickering to undertake the examination of the schools, each of these gentlemen mentioned a case of color-blindness among their friends. Dr. Pickering introduced a gentleman, Mr. A., a manufacturing chemist of twenty years' standing. His vision is perfect, and he is never fatigued in reading. He knows that grass is green, having been told so from infancy, otherwise he would take it to be yellow, about which color he never makes any mistake. He takes red berries to be green, but a shade lighter than the green leaf. In the spectroscope he sees blue and orange; he knows that there is something else, but cannot venture upon any name. He has a good ear for music—so acute, indeed, that he can detect the slightest sharpness or flatness of a note. He was the conductor of a choir. Crimson is nothing at all to him—grey is the best term he can give for it; scarlet, orange and salmon color he is not sure about; lemon and yellow he is quite confident about; light and dark green he knows nothing of, and can only say that the one is brighter than the other; light blue and indigo he is certain about; violet and purple are similar to blue and indigo respectively—one is a repetition of the other. Gaslight improves the red, but makes no difference to the other colors.

For chemical tests he has to rely entirely upon other parties. His grand-father and maternal uncle were color-blind.

Dr. Cumming introduced Mr. B., a merchant in town, who is remarkable clever in the appreciation of designs; in the blending of colors he generally succeeds fairly, but sometimes he makes ridiculous mistakes. He calls pale green, Shetland grey; bright green, drab or fawn; dark green, purple. The difference between certain shades of fawn, green and red, is to him no contrast at all, but he seems to know them, in his warehouse, in a kind of catalogue way. The crimson, scarlet, and orange, he thinks to be red, but is not sure; salmon, lemon, and yellow, he calls yellow; light

and dark green you may call drab or anything you like ; he knows all the blues. Therefore he is totally green blind and deficient in red ; for instance a piece of scarlet cloth thrown upon a bright green ground is not readily picked up. His vision with regard to purple is similar to that of the preceding case—i. e., he sees no difference whatever between blue and violet, nor between indigo and purple or ultra-violet, but mere repetitions. He is hypermetropic (H. 14 left, and 10 right) ; hearing of left ear is rather deficient. There is also an eye-history in his family.

The Treasurer of the Philosophical Society introduced to me a gentleman, Mr. D., who is a shawl manufacturer. On examining him I find that he calls pale green, dirty white ; green, yellow, and orange are all to him yellow of varying brightness. He knows scarlet, but dark green is to him the same as red. The perception of blue and violet is similar to that in the two preceding cases. Therefore, he is totally green blind. In the spectrum he sees all the colors except green, which is similar to red, but of a lighter shade, as if some yellow had been mixed with it. Crimson he calls green ; scarlet, red ; orange, light red ; salmon color he considers to be light green ; the vision of orange, yellow and blue, is correct ; ultra-violet has the same appearance as indigo. He is an only son. His mother, who is seventy, has excellent sight, is not near-sighted, and has never required spectacles for reading ; *her brother* was color-blind.

I have entered into details of these four cases, because they are typical, representing the forms of the defect which are usually met with, and because the subjects, being gentlemen of intelligence, were, in addition to the objective tests, able to give accurate account of their objective sensations.

Cause.—I have already mentioned that some cases are caused by disease ; but generally it is congenital, an inheritance transmitted from maternal relations. It is most probably caused by the intermarriage of cousins or other near relations. Hence, very likely, why Quakers furnish a large contingent of color-blind. Dr. Wilson records six males in one family—uncles, nephews and cousins—who were all markedly color-blind, which defect had descended to them from their maternal uncle. They all belonged to the Society of Friends. One of them, a minister of that body, bought for his

wife a bottle-green dress, and for himself a coat of bright scarlet, instead of the conventional drab of the Society.

When color-blindness is caused by disease it may be cured, but when it is congenital it is incurable.

Seeing that the peculiarity of most color-blind people is to mistake red for green, or to ignore a shade of red altogether, and to take green for yellow, the subject assumes a practical importance in connection with railway-signals, and lights in sailing-vessels, steamers and light houses. The significance of railway-signals is as follows:—At night a red light signifies “danger;” a green light “caution” or “not sure;” and a white, “proceed.” In the day-time red semaphores are used. When at a right angle to the post, the signal means “danger;” at forty-five degrees, “proceed cautiously;” and when folded in, “road clear.” By the regulations of the Board of Trade, every sailing-vessel must, from sunset to sunrise, carry a green light on the right or starboard side, and a red light on the left or port side; and steamers must have, in addition, a white light at the mast-head. This last is visible for five miles, and the side lights for two and a half miles distance. The rule for meeting vessels is to keep red to red, and green to green. The colors indicate to the officer on duty the direction in which the ship is proceeding, and the relative position of both vessels. In light-houses there are, generally, revolving and intermitting white lights, sometimes red ones, rarely green.

The practical bearing of this question, therefore, is that red and green being of necessity the very colors used in railways, sailing-vessels, and steamers, as well as in light houses, a color-blind person may be the engineer of a train running a mile a minute, and the passengers' lives depend upon his clear perception of the difference between a red and a green light. He may mistake the danger signal red for grey or white, or when it appears black he may not see it at all; and he may take the green for the yellow or safety signal. Or he may be the pilot on a steamer, and cannot say whether the light directly ahead of him is red or green, and hence cannot steer so as to avoid a collision.

It is this aspect of the question to which Wilson directed his attention:—“Struck by the danger which attends the use of colored signals on railways if any of the signal men are color-blind,

and satisfied from published statistics of color-blindness that it must present itself in the army of railway servants spread over Europe and America, I brought this aspect of the subject before the Scottish Society of Arts, and I am happy to say that the publication of my paper has induced the Great Northern Railway Company to require that in future all their officials shall be tested as to their freedom from color-blindness before they are admitted."

It may well be asked, How is it possible for a color-blind engine-driver, for instance, to perform his duty for any length of time without exposing his deficiency? But the explanation given by Holmgren is simple when we remember that a color-blind person may come to distinguish between red, green, and white lanterns or flags, and even learn to call them by their right names, whilst all the time it is not color which he sees; but he differentiates by the degree of intensity of light. The green is to him, as also to the normal eye, the deepest and darkest and red the most brilliant. As to the lanterns, the red-blind always recognize the red light by its being the darker than the green, and the yellow by its being clearer and more brilliant. The green-blind distinguishes also the red, which he finds more brilliant than the green. In short, the color-blind person supplements his defective vision of colors by all secondary aids. He trains himself to notice differences which escape most other eyes; these differences serve him in lieu of color. That is the reason why daily collisions do not occur on railways and at sea on account of color-blind officials. But if these circumstances lessen the dangers, they do not remove the liability to disaster. When we keep the broad facts before us, that the color-blind man cannot distinguish between red and green, all his interpretation of signals rests upon the intensity of light; he knows light only by its quantity, and has no notion of quality. Now, if it is a matter of calculation and not of perception, it is evident that any objective or suggestive cause may disturb and upset all his calculations. A tarnished signal, an ill-trimmed wick, the coloring matter of the glass, its thickness, or a little moisture, water, or snow adhering to the glass, will render the light less luminous; and a lantern illuminates differently in clear and foggy weather. Subjectively, the nervous apparatus of the eye may, like all other parts of the system, vary in its sensitiveness; the same light is brighter to a healthy eye

in repose than to an eye fatigued and weakened. Every modification of the intensity of light being for the color-blind a change in color, little dependence can be placed upon his recognition of signals. No one would entrust his life to an engine-driver who could only distinguish signals by the difference in the intensity of the light—to whom a feeble light would indicate danger; a medium, caution; and a strong one, safety; and yet these are just the conditions under which every color-blind engineer has to perform his duty. Should he rely upon his neighbor, there is the possibility of his neighbor being either color-blind or blunt of color-perception. Besides, a great many are unconscious of their defect. Professor Holmgren reports that a large number of men, far from being convinced of their defects even after repeated examinations, gave all sorts of excuses for mistakes; they all insisted that they had excellent sight, and had never experienced the slightest difficulty in distinguishing signals, and had never made the slightest mistake. What is required, however, for the safety of the public is a conductor who can pick up colors instantaneously, without measuring degrees of luminosity, or relying upon adventitious aids. The fact is indisputable that railway accidents have occurred from inability to discern the color of signals. Dr. Rumberg has also classified the reports of some marine accidents from 1859 to 1866; they were 2,408 in number. Of these, 1562 were due to want of skill or carelessness of the ship's *personnel* or to accidents impossible to prevent; 215 to errors of the pilot or captain; 537 to want of observation or proper interpretation of the rules of the way; 94 to undetermined causes.

Under the last three heads, in the large number of 846—there is little doubt that some are attributable to color-blindness, especially when we recollect the effect of fog on the color of lights.

Test.—From the preceding remarks it will be evident that all examinations based on the naming of colors are no tests at all; for a person may be deficient in his color vocabulary, and yet have an acute perception of color; whilst another may have learned to attach the proper names to certain colors which he does not see, but of which he judges by the brightness of luminosity. Hence, also the reading of Snellen's colored test types and Stilling's red types on green ground, etc., can prove nothing in regard to color-perception.

The test now generally considered the *experimentum crucis* is that originally proposed by Wilson, elaborated by Holmgren. It consists in matching colored skein worsted. You show a certain color, which the person under examination is required to match. It is usual to begin with green and its shades, then go on to yellow, blue, and red.

Dr. Stilling is the only writer who does not think this test quite reliable. I have come to the same conclusion after careful trial. I have found that in some undoubted cases of color-blindness the colors are easily matched. To render this test of any value at all, the colors should be matched when seen at a distance. After having tested a large number in the usual way, I had to abandon it, and resorted to examination in the following manner :—First, the person looked through the spectroscope, and was then asked to pick out from a heap of colored worsteds the exact colors he saw in it ; next, he was asked to match colors held up, one after another, at a distance of six feet from him. I have no hesitation in saying that this test is perfectly reliable. Goethe said, “ You cannot reason for any length of time with an intelligent color-blind man on colors without running the risk of getting crazy ;” but the examination conducted in the manner just indicated is sometimes highly amusing.

Statistics.

Total number examined	2.134.
Color-blind	28, or 1.31 per cent.
Blunt of perception	143, or 6.70 “
Examined with spectroscope, and at a distance of six feet from the color to be matched	398.
Color-blind	12, or 3 per cent.

The subjects examined were all boys, for females are generally considered to be rarely deficient in color perception. Whether it is really the case, or whether they are more apt to conceal the defect, is uncertain. We have, however, found in the case of one color-blind boy that his sister is also color-blind.

Comparative Statistics.

Professor Wilson, Edinburgh	5.6 per cent.
Dr. Stilling, Cassels	5.0 “
Professor Donders, Utrecht	6.6 “

Dr. Magnus, Breslau . . .	3·27 per cent.
*Dr. Cohn, Breslau . . .	3·6 “
Professor Holmgren, Sweeden . .	3·25 “
Dr. Jeffries, Boston . . .	5·0 “
Dr. Freris, France . . .	8·18 “
Dr. Favre, Lyons . . .	9·33 “
Glasgow Commission . . .	3·0 “

From these statistics* we are entitled to assume that of all *employés* on railways and at sea 3 per cent. are color-blind, and 6·5 per cent. can perceive colors with difficulty; thus 9·5 per cent. ply their occupations amidst conditions approaching to uncolored signals.

It is remarkable that, whilst Wilson's labors have been productive of good results in nearly all continental countries—in France, Germany, Sweden, Norway, Italy, Austria, yea, even in Russia, where there is a Government ordinance to guard against the admission of color-blind railway *employés* and sailors into the service—no good has accrued so far as this country is concerned. No legislative enactment makes provision against the occurrence of such accidents.

On inquiry at the Caledonian Railway office, I find that every applicant for a situation on that line gets a printed certificate to fill up as to his health, etc. One of the questions is, whether the applicant has good sight and is capable of distinguishing colors. This certificate may be signed by any medical practitioner. This I consider a mere shirking of the responsibility. The companies do not consider themselves the guardians of the public; if the smash comes, they are not the responsible parties—there is the certificate signed by Dr. So-and-so! This may be quite well in a way; but it is not the principle on which life assurance companies conduct their business. They have their own medical referee, who is responsible to the company for every life he recommends

On the North British system, the duty of examining the applicants is performed by the Locomotive Superintendent. It is conducted, as you may expect, by showing the applicant different col-

*The difference in the results obtained by the various writers is easily explained when we bear in mind that neither of them takes cognizance of dyschromatopsy. Some of them take bluntness of perception for color-blindness, whilst others disregard it altogether.

ored cloths and asking him to name them ; he is then examined in gas light, the idea apparently being that that is a more rigid test of the discernment of colors.

After what I have stated above, no criticism is required to show that this is worse than no examination at all, because it tends only to confirm color-blind officials in the conceit that they are quite capable for their duty.

The best provision against disasters from the cause under consideration would be, of course, an Act of Parliament. This is not only the most efficacious means, but also the most easily attainable. In the meantime railway companies and ship owners should be made to see that, as guardians of the interests of the shareholders, the shirking of such responsibility does not tend to the promotion of that interest. I have no doubt that if due stress be laid upon the point relating to vision and color-vision, medical practitioners generally will soon acquaint themselves with this subject. But meanwhile it would be the most direct way to have the whole staff of officials properly examined by one competent to conduct the examination ; for it is evident that, to be of any value, it must be conducted by one who understands the whole subject.

In conclusion, I would remark that it would be desirable to have hung up in school diagrams of the spectral colors, and scales of various shades, to accustom the eyes of the young to them ; for just as the ear may be trained to the perception of musical sounds, so a great deal may be done in the way of educating the eye in the appreciation of the finer shades of color, although color-blindness when congenital is incurable.—*Medical Times and Gazette*.

The Coroner's Inquests.—The State Board of Health, we are pleased to announce, will inspect the workings of the present status of the Coroner's inquests, and hope to propose to the next Legislature a substitute for the present expensive and objectionable method. Our present civilization has a long ways outgrown the machinery the State has on the statute books in this particular.

A SUMMARY OF FERRIER'S LOCALIZATIONS.

The following useful summary of localizations described by Dr. Ferrier in his Goulstonian Lectures on the Localization of Cerebral Disease, (Smith, Elder & Co., 1878), is given in the *Birmingham Medical Review*, April, 1879. It will probably be found useful and acceptable by a large number of readers.

Lesions of Frontal Lobes.—The frontal lobe includes the superior middle and inferior frontal convolutions, the ascending frontal convolutions, and the orbital and internal aspect of the same region, but for pathological and physiological purposes it is necessary to subdivide this, and to describe that part which, in its relation to the skull, is roughly bounded by the coronal suture, as the prefrontal lobe, or anterofrontal region. In the monkey, electrical stimulation of this region causes no motor reaction, and destruction of this region is followed by no paralysis of motion or sensation. There are numerous cases on record all pointing to the same conclusion; most extensive injuries and diseases of these lobes having produced no paralysis of motion or sensation. There is reason to believe that their function is in some way bound up with the higher manifestations of intelligence, their deficiency being frequently associated with idiocy, and their removal in monkeys, leading to impairment of the faculty of attention and intelligent observation.

Lesions of the Motor Regions.—The motor area, as determined by experiments on monkeys, includes the bases of the three frontal convolutions, and those convolutions bounding the fissure of Rolando, viz. : the ascending frontal, the ascending parietal convolutions, the postero-parietal lobule, and the internal aspect of the same called the paracentral lobule. General or extensive lesions of this area are followed by paralysis of voluntary motion without affection of sensation on the opposite side of the body. This paralysis is frequently associated with rigidity or convulsive spasms in the paralyzed parts, particularly in the early stage; and if destruction of the cortical substance be complete, the paralysis is of permanent duration, and sooner or later is followed by late rigidity and secondary sclerosis of the motor tracts, traceable down the crus and pyramid, and thence mainly in the opposite side of the cord in the posterior part of the lateral column, a corresponding band of

secondary degeneration frequently existing in the internal aspect of the anterior column on the same side of the lesion. (In an earlier part of his book, p. 11, Dr. Ferrier refers to this incomplete decussation of the motor tracts as explaining the occasional departure from the rule that in cerebral hemiplegia the paralysis is on the opposite side to the lesion. He points out that according to Flechsig there is no normal fixed percentage of crossing and direct fibres, but that these present individual variations from three principal types, (a) total decussation, (b) semi-decussation of one pyramid, (c) semi-decussation of both pyramids, while in rare cases the decussation of the pyramids may entirely fail). But what is true of lesions of the cortical substance holds good equally of the subjacent white matter, which consists, at least in part, of the direct motor fibres passing down from the grey matter.

Partial lesion of the motor area gives rise to hemiplegia, but as the area of anatomically demonstrated lesion is not necessarily co-extensive with the area of functional disturbance, conclusions as to exact localization from a purely clinical point of view are always more or less doubtful. Thus, in one case the lower two-thirds of the ascending parietal convolution, in another the left paracentral lobule, were the seats of the lesion.

Oculo-motor paralysis, sometimes occurs independently. Dr. Ferrier has found that in the monkey there is an area at the base of the first frontal, and extending partly into the second frontal convolutions, irritation of which causes elevation of the eyelids, dilatation of the pupils, conjugate deviation of the eyes and turning of the head to the opposite side. There are some cases which indicate the existence of a similar centre in the corresponding part of the human brain, but the facts at present known are not decisive.

Paralysis of the leg may exist apart from that of the arm. In the monkey, stimulation of the postero-parietal lobule causes movements of the leg as in walking. There are cases on record in which the lesion has been found in this region, in the upper part of the ascending parietal convolution and in the paracentral lobule. Dr. Ferrier says it is necessary to be cautious in drawing conclusions as to the exact position of the arm and leg centres in man from considerations of mere anatomical homology, but the cases referred to

show a rough agreement between the data of the experiment and the facts of morbid anatomy. Where paralysis of the arm is associated with that of the leg, the ascending frontal convolution is also implicated.

Paralysis of the arm only has been seen in a case where hæmorrhagic extravasation three millimètres in extent was situated at the upper part of the ascending frontal convolution. But the centre for the hand is placed by experiment in the ascending parietal convolution, which is remarkably confirmed by the examination of the brain; in a case, reported by Dr. Gowers, of congenital absence of the hand.

Paralysis of the arm is frequently associated with paralysis of the face. The lesions causing this affection are all towards the middle or lower third of the ascending convolutions; where experiments in monkeys have localized the facial and manual centres.

Facial Paralysis from cortical lesions unassociated with brachial paralysis or aphasia is uncommon, and is always on the right side. It is probably due to a lesion of the lower frontal convolutions near their junction with the ascending frontal.

Aphasia is the result of destruction of the orolingual centres which are situated at the lower extremity of the ascending frontal; where it joins the third frontal, as is well known. Aphasia, in the great majority of instances, occurs only when the lesion is on the left side, and it is remarkable that in several at least of the cases in which aphasia has occurred with disease of the right speech centre, the patients have been left-handed.

In reference to the diagnosis of cortical paralysis, Dr. Ferrier remarks that apart from considerations as to the diathetic indications, mode of onset, etc., of the affection there are no features which clearly enable us to distinguish between hemiplegia depending upon general destruction of the motor area of the cortex and hemiplegia due to destructive lesion of the corpus striatum, more especially those involving the anterior two-thirds of the interior capsule. But hemiplegia, complete from the first and permanent, is not the most common type of paralysis depending upon cortical lesion; on the contrary, the affection is often limited or transitory, a hemiplegia passing into a brachial or crural monoplegia, or monoplegia with spasm. Early rigidity is of frequent occurrence, and consciousness

is less frequently lost. As Callendar has pointed out, cortical lesions are more frequently accompanied by localized pain in the head. Irritative lesions of the motor area cause, not paralysis, but spasm, and the seat of the lesion may be approximately determined by the rules as to the localization of destructive lesions, but with more uncertainty, from the obvious difficulty of determining the area of the zone of irritation or the special point in this zone in which the irritation concentrates itself.

Destructive lesions of the posterior third of the internal capsule cause hemi-anæsthesia of the opposite side of the body, a fact now well established. This hemi-anæsthesia is accompanied by a defect or abolition of taste, smell, and hearing, with loss of visual acuity, contraction of the field of vision and color-blindness. If, as was formerly supposed, only the internal fibres of the optic tract decussate, there should be hemiopia of both eyes, and not amblyopia, as is the case. This difficulty is got over by assuming that the fibres which do not decussate in the chiasma do so in the corpora quadrigemina. "It is clear," says Dr. Ferrier, "that the lesion of the internal capsule which produces these effects does so by causing a solution of continuity of the paths of centripetal impressions," and he proceeds to enquire where those centres are to which these impressions are ultimately conveyed. Both experiment and morbid anatomy exclude the occipital lobes. Lesion of these are latent, though the author believes that these lobes are connected with our visceral impressions, animals who have suffered mutilation of these parts refusing to eat. We turn, therefore, to the temporo-parietal region, consisting of the supra-marginal lobule and angular gyrus in the parietal lobe, and all the convolutions of the temporo-sphenoidal to be on its external and internal surfaces. Lesions of this part in the lower animal produce impairment or paralysis of sensation on the opposite side of the body.

Vision.—Unilateral destruction of the angular gyrus in the lower animals is followed by temporary blindness in the opposite eye; bilateral destruction by permanent blindness in both eyes.

Hearing.—Destruction of the superior temporo-sphenoidal convolution on one side causes impairment of hearing on the opposite side; bilateral destruction causes complete deafness.

Smell.—Destruction of the lower extremity of the temporo-

sphenoidal lobes on one side causes loss of smell on the same side, and if invading neighboring regions, causes loss of taste as well; bilateral destruction causes complete loss of taste and smell.

Common and Muscular Sensation.—When the region of the hippocampus major and uncinate gyrus was ploughed up in such a manner as to avoid the internal capsule and medullary fibres of the other cortical regions (with the exception of the occipital lobe), tactile sensation was abolished on the opposite side, sight and hearing remaining unimpaired.

These are the results of experiments on animals. At present they are not fully confirmed by pathology, lesions in these regions being usually described as latent, but Dr Ferrier says there is reason to believe that the latency may have been in the observation. In reference to cortical lesions and their effects on hearing, he quotes a case of what Kussmaul has called "word deafness," associated with softening of the first and second temporo-sphenoidal convolutions. In this condition of word deafness the patient may be able to hear but not understand spoken words, though he can read and write. He also quotes a case of word-blindness, an analogous affection of the visual centre, in which the lesion corresponded with the angular gyrus.

With regard to the localization of tactile sensibility, Mr. Jonathan Hutchinson concludes, from his observations on cranial injuries, that contusion of the sphenoidal lobe more particularly causes along with partial motor paralysis, paralysis of tactile sensation on the opposite side of the body.—*London Medical Record*.

To Hasten the Action of Quinine.—Dr. Starke, *Berliner Klin. Wochenschrift* advises that before swallowing powders or pills of quinia, a weak tartaric acid lemonade be taken. This procedure not only accelerates the solution and absorption of the quinia, rendering its physiological action much more prompt, but also obviates that unpleasant gastric irritability so common after the administration of large doses of this drug.—*The Cincinnati Lancet and Clinic*.

MINUTES
—OF THE—
TWENTY-SIXTH ANNUAL MEETING
—OF THE—
MEDICAL SOCIETY OF NORTH CAROLINA.

FIRST DAY.

GREENSBOROUGH, N. C., May 20th, 1879.

The twenty-sixth annual meeting of the Medical Society of North Carolina convened in Benbow Hall, Greensborough, May 20th, at 11 o'clock, A. M.

The meeting was called to order by the President,

CHARLES DUFFY, JR., M. D.

The meeting was opened with prayer by the Rev. Dr. D. R. Brunton, after which Dr. J. K. Hall, of Greensborough, introduced Col. John A. Gilmer, who delivered the address of welcome.

ADDRESS OF COLONEL GILMER.

Mr. President and Gentlemen of the Medical Society of North Carolina:

The pleasing task of speaking in the name of this community, a word of greeting and honest welcome to your distinguished body though committed to unworthy hands, is accepted as an honor and a privilege. The assembling of so many representatives of so venerable and honorable a profession, involving the communion of minds devoted to the sacred pursuits of science and to the alleviation of human ills, is an occasion of real and imposing interest. For upon the results, conclusions and confirmations of deliberations like yours, depend important elements which shall enter into the great work of furthering and establishing the good of mankind. I therefore hail your coming together as the harbinger of further blessings, and tender you assurances of general sympathy and welcome.

The people of North Carolina recognize, accept and appreciate in the results of your labors, and in the development of the noble,

yet still occult science committed to your keeping, evidences of increasing and permanent good, and through their Legislature have given assurance of this faith in the organization and protection of this highly respectable body. And it is a source of no little pride with every true son of the "Old North State" (who marks in any degree the progress of the times) to note the fact that in effort, zeal, attainments, skill, dignity and distinction among her medical men she stands inferior to none and superior to many of her sister States, and the impulse of every patriot is to bid you "God speed" in all your organized and efficient work.

There are few, I trust very few, among the many truly reasoning and thinking people of our quiet old Commonwealth who partake in any measure of the apprehension now occasionally expressed, and sometimes preached, that at the increased knowledge of the natural world to which physicians are attaining is accompanied by a correspondingly decreased belief in the supernatural. With such few, and such views, I assume that this body, as well as myself, has no sympathy nor lot. A profession like yours, which in the complimentary and just language of another, "has almost annihilated distance, baffled pain, multiplied every convenience of life, and covered the civilized world with traces of triumphant skill," is surely too potent an instrumentality in illustrating the glory of God, to be regarded with any such timid apprehensions. The simple yet solemn ceremony by which we have just ushered in the beginning of your labors, have launched your deliberations on the wings of prayer to Him "whom by searching we may not find out," is a recognition by you of the important truth, that the science to which you have consecrated yourselves is the ready handmaid of the religion of the spirit. So, let all good people, all true seekers after light and knowledge, bid you press on in their gigantic strides of discovery which have signally characterized your progress in the present age; and let the timid laggard who accepts "Atheism as the creed of science" be overtaken by the humiliation of being excluded from the feast of the soul, which truth is spreading for us.

Therefore we greet your coming together and accord to you the foremost rank in the pursuit of truth in the natural world, and commend with propriety, I conceive, the Divine injunction "to forsake not the assembling of yourselves together."

Not only, Mr. President, in the triumph and faithful achievements of your study, investigation and experiment, but in the skillful and conscientious application of these beneficent results, do we recognize the claims of your profession to the sympathy of the public. Next to the sacred offices of men of God, no tenderer or more responsible duties and trusts are committed to any class of our fellow citizens than those entrusted to you. And here I beg to congratulate you upon those protective features of your organization by which quackery and unworthy representation, which will obtrude itself into all good institutions, may be exposed and avoided. The edict of Frederick II., King of Naples, published as early as the thirteenth century, requiring a rigid examination of every candidate for admission into the medical profession, and exacting from him, before entering upon the responsible duties of a practitioner, an oath, "to be pure in life, to be submissive to the laws, to attend upon the poor gratuitously, and not to share in the profits of the apothecary," was but an announcement of the lofty, responsible, and almost sacred sphere in which we conceive every true physician should move. In the peculiar features, therefore of trust, confidence, loyalty, benevolence and skill, the interest which attaches to your meeting in solemn convention is exceptional, and adds a zest to the sympathy and good will of the community in which your labors are expended. The public no longer associates with your honorable profession the superstitious Priest, the uncultured barber, and the mysterious alchemist, but seeks among your ranks for the cultivated gentleman, the true philanthropist and the influential citizen. We have much to rejoice over, truly, in the present status of medical science. We are no longer taught, indirectly through the action of calomel and jalap supplemented by the rigid rule that no bystander dare dip so much as the tip of his finger into cold water and cool our parched tongue, that the torment of the Bible is to be administered in this present world through the instrumentality of the doctors. The fevered brow and fluttering heart of the little child are no longer aggravated by the addition of a nauseated stomach unappreciating the coming of the doctor, with the visions of British oil and aloes. The wounded soldier no longer feels his flesh quiver at the approach of the surgeon, under the contemplation of having his already pierced frame made a sieve for boiling

oil. But I withhold further comparisons of the past with the present, lest my remarks degenerate into "the odious." We all certainly bespeak for your deliberations and conclusions the force and dignity of real progress. These assemblies of yours will no longer be regarded as conclaves of mysterious and cabalistic notions. Nor are they to be classed with the boisterous demonstrations of party fealty and so-called statesmanship; but must be honored as quiet, dignified and earnest consultations for the public welfare.

The rule evolved by the venerable Guizot, after a long life study of men, events and nations, that "there is less of combination than of momentary inspiration, derived from circumstances, in the resolutions and conduct of great men," seems to be without application to the medical profession, whose success and glory are the fruits of the closest application and the most laborious study and experiment, and the combination and contribution of each one's discoveries to the establishment of the common fact.

May the goodness of truth ever preside over your deliberations and rule in your researches; may your labors continue to be crowned with success, and evolve, establish and proclaim those hidden secrets of nature, which shall render your profession a light to the suffering and an honor to our nation.

While you remain in our midst and partake of the hospitalities of our little city, which I most respectfully tender to you without stint or grudging, and when you shall have returned to your respective circles of labor and influence, I venture the expression of the hope that the pleasure of your conference may be heightened by memories of a friendly recognition and a generous sympathy.

Dr. Thomas J. Moore, of Charlotte, in behalf of the members of the Society, accepted the hospitalities so generously bestowed, and spoke of the peculiar fitness of the medium through which they had been tendered—the welcome and its manner being worthy the son of a Gilmer who had ever been foremost in all that concerned the interest or reflected the wishes of North Carolina.

The following committees were appointed:

Credentials—Dr. Eugene Grissom, Dr. Hugh Kelly and Dr. C. T. Murphy.

Finance.—Dr. J. T. Shaffner, Dr. James McKee and Dr. E. H. Hornaday.

The Committee on Credentials retired, and soon after the meeting adjourned until 3 P. M.

AFTERNOON SESSION.

Society assembled promptly pursuant to adjournment, at 3 P. M.

Dr. Grissom, Chairman of the Committee on Credentials made the following partial report:

To the Medical Society of North Carolina:

The Committee on Credentials beg leave to recommend for membership to this Society the following gentlemen; to-wit:

Dr. J. S. McLean, McLeansville, Guilford County.

“ C. C. Peacock, Wilson, Wilson County.

“ J. W. Smith, Reidsville, Rockingham County.

“ B. A. Cheek, Greensborough, Guilford County.

“ J. C. Ector, Friendship, Guilford County.

Respectfully submitted,

EUGENE GRISSOM, }
HUGH KELLY, } Committee.
C. TATE MURPHY, }

Dr. Walter C. Murphy offered the following resolution which was adopted:

Resolved, That members of the profession who are present with a desire of becoming members of this Society, but who cannot do so until the Board of Medical Examiners shall have made their report, be invited to participate in the discussions of this body.

Dr. H. O. Hyatt, of Kinston, offered his resignation, by letter.

Dr. Grissom said Dr. H. had done honor to the Society by his conspicuous talents, and hoped he would not press his resignation.

Dr. O'Hagan was sure he expressed the common sentiment of the Society in saying that the step taken by Dr. Hyatt is done without sufficient reason; and hoped that upon consultation with his friends, to withdraw his resignation. The Society could not afford to lose so valuable a member.

A motion to lay on the table the motion to accept the resignation was carried.

Dr. Thomas J. Moore, of Charlotte, in seconding the motion, eulogized Dr. Hyatt's career in the Society, and hoped that the Secretary would be instructed to send a letter of expostulation and assurances of fraternal consideration.

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Dr. Hyatt's resignation was laid over until the next meeting.

A letter was received from Dr. L. A. Sayré, accepting his election as honorary member of the Society, was read by the Secretary. Ordered on record.

Dr. E. C. Seguin sent a correspondence from the Metric Board asking the Society to adopt the Metric System.

On motion of Dr. Thomas F. Wood it was referred to a committee of three.

The following committee was appointed :

Drs. Thomas F. Wood, Charles J. O'Hagan and R. L. Payne.

The committee was directed to report the advisability of this change at the next annual meeting of the Society.

The President announced the *Committee on Finance* as follows : Drs. J. F. Shaffner, James McKee and E. H. Hornaday.

The following report was submitted by the Committee :

To the Medical Society of North Carolina :

Your Committee on Finance, to whom the books and vouchers of the Treasurer were submitted having carefully examined the same, respectfully report that the duties of the Treasurer have been properly performed, the books accurately and neatly kept. They submit the following statement :

Cash on hand.....	\$203.71
Am't received by dues at Goldsborough, (May, 1878).....	238.00
Subsequent receipt from members.....	62.00
	<hr/>
	\$503.71
Expenses.....	275.71
Printing and Publishing Transactions.....	\$230.00
Secretary's expenses.....	32.76
Incidental	12.95
	<hr/>
	\$275.71-238.00
Advertisement receipts.....	60.00
	<hr/>
Balance in Treasury.....	\$288.00

In reference to delinquent members we recommend that Sec 3, Art. VIII, of the Constitution be rigidly enforced, and further, to provide against the possibility of future indebtedness under which the Society so long and grievously suffered, we recommend an annual assessment of \$2 per capita.

J. F. SHAFFNER, M. D., }
E. H. HORNADAY, M. D., } Committee.
JAMES MCKEE, M. D., }

Report adopted.

Dr. O'Hagan spoke upon the adoption of the report, and urged that the suggestion of the Committee be rigidly enforced. Mild measures has not moved members to pay their dues, like the old man in the fable they should be pelted with brick-bats. In this connection he spoke also of the faithful manner in which the Secretary had performed his duty, and moved that the Society offer to the Secretary, Dr. L. J. Picôt, one hundred dollars as an honorarium.

Motion unanimously carried.

Dr. Satchwell on behalf of the Local Committee of Arrangements, announced that the annual address by Dr. W. W. Lane, would be delivered in Benbow Hall on Wednesday evening at 8 P. M.

Dr. Walter Debnam, on behalf of Dr. Jones, Principal of the Greensborough Female College, extended an invitation to visit the College. Accepted, and the hour set at 6 P. M., on Wednesday.

Under the call for written communications, Dr. S. S. Satchwell, of Pender County, appeared and read a paper on *Sanitary Improvement*.

On motion of Dr. Picôt it was referred to Committee on Publication.

Dr. Wood moved that 10½ o'clock Wednesday, the organization of the North Carolina Board of Health be proceeded with, which motion was carried.

In consideration of the fact that the annual essayist, Dr. M. Whitehead would be ready to read his paper on Spondylitis, Dr. Thomas J. Moore moved for a reconsideration which was carried after debate. The hour for the reading of the essay by Dr. Whitehead was the order for 9 o'clock.

Dr. C. T. Murphy then moved that the next order immediately after the essay and the discussion ensuing, be the election of the North Carolina Board of Health, which motion prevailed.

Dr. T. D. Haigh, of Fayetteville, called up his resolution to amend the Constitution, the substance of which was to choose officers of the Society by ballot, and asked to withdraw it. Consented to.

The President then called upon the various Sections for reports.

The Chairman of the Section on Anatomy and Surgery, Dr. Charles J. O'Hagan, stated that his report was not completed and

asked permission to refer it to the Committee on Publication without reading it. Granted.

The Chairman of the Section on Obstetrics and Gynecology being absent it was passed over.

The Chairman of the Section on Practice of Medicine being absent, Dr. Thomas F. Wood made the annual report. As this paper will not be published, the following summary is given :

The first subject taken up was the *Localization of Cerebral Disease*. It was from the pathological standpoint that the physiologist had received his greatest enlightenment, and fortunately for the progress of the work, for the most part, the pathologist was at the same time physiologist.

The doctrines of the localization of the brain have been so recently promulgated that "in* 1866, Vulpian, when speaking of cerebral localization maintained that nothing could justify the assertion that the various regions of the grey cortical substance of the brain had more influence on one than on any other function."

Dr. Ferrier excited renewed professional interest on these topics by making known his scientific discovery in 1873.

The German physiologist, Hitzig, claims to divide with Ferrier, the development of the theories of localization. Both instituted experiments to define and figure certain portions of the cortical cerebral substance as the sources of motor power; that the exact points were not identical may be seen, by an examination of the writings of the two physiologists.

The experiments of Hitzig and Fritsch and Ferrier, were repeated and their conclusions were confirmed by other observers, and many clinical facts also were contributed in confirmation of the theory of localization, the phenomena of epilepsy being especially adduced as giving support to the new doctrines. But Hitzig was the first who proved by direct experiments that epilepsy could be referred to specific lesions of the cortical brain substance.†

Brown Séquard‡ does not deny the doctrine that the cortical substance has motor influence, but denies the possibility of localizing

*Med. Times and Gazette, 1878, p. 747.

†Motor Localization in the Cortical Part of the Brain, 1878.

‡Med. Times and Gazette, 1878, p. 747.

any function whatever either in it or any part of the brain. Every cellular element, according to him, presides over a determinate function; but nevertheless all the cellules destined to the same purpose would not be found united in groups and forming so many centres, but would be disseminated in every part of the encephalon, whereby a lesion may destroy any one part of this great centre, without altering any of its functions.

Dr. Maragliano believes that in man the compensation of a cortical lesion, although extensive, is possible for part of the opposite hemisphere, especially when the left is the injured one; and this substitution is effected generally, if not exclusively, by means of those bundles of direct fibres which go from the sound hemisphere to the same side of the body.*

In so far as these physiological theories bear upon the diagnosis of disease of the brain, they place the practice of this special department of medicine on an advanced ground.†

In the study which has been devoted to this branch in the past year, its promise for future practical results is very encouraging.

VALUE OF THE TENDON-REFLEX.

The value of "*Tendon-Reflex*"‡ which was recently studied by Professors Erb and Westphal, and afterward by Dr. Grainger Stewart, has been growing in professional confidence as a method of diagnosing locomotor ataxia.

Dr. Stewart agrees with Erb and Roger "that in fully developed grey degeneration of the posterior columns of the cord the 'tendon reflex' is lost." It is hardly necessary to explain what is meant by tendon-reflex. By sharply tapping on the ligamentum patellæ, while the foot is dangling down and knee bent, a quick jerking forward of the foot is produced, after a sufficient interval succeeding the tap.

Dr. Allan McLane Hamilton§ reviewing eight cases of absent tendon-reflex says:

"It would seem, therefore, as if the absence of the patellar tendon-reflex were not so valuable a diagnostic sign as it has been

*Med. Times and Gazette, 1878, p. 748.

†Goulstonian Lectures, 1878.

‡N. C. Med. Journal, Vol. 1, p. 190.

§Boston Med. and Surg. Journal, December, 1878, p. 786.

said to be in locomotor ataxia, but there can be no doubt of the fact that when its absence is coupled with the so-called 'lightning-pains,' plantar anæsthesia, and dimness of vision, there is reason for apprehension."

Under the head of "The Contagiousness of Phthisis" the literature of the subject during the past few years was reviewed, and the reporter seemed to have decided leaning towards the views as expressed by Dr. Edgar Holden and Dr. Bell in the *American Journal of Medical Sciences*, viz. : The question, can septic material be eliminated from the body of a person suffering from necrobiotic changes in the lungs, which floating in the air or transferred by contact, develop the same affection in another person ?" To this practical point these two writers have been able to answer in the affirmative.

Dr. Holden epitomizes concisely this opinion, that consumption is communicable in its latter stages by means of soluble excrementitious matter thrown off by the skin and deposited on the bedding and under-clothing, or in any other manner brought into contact with the naked surface of a healthy body ; and that, although in some instances this may be thrown off without development into new disease, it is yet very liable to be so developed, and more liable where the healthy person is by heredity or depression in a favorable state for its reception ; and, finally, that the idea of infection or communication by the atmosphere is not sustained, and rare even if it is possible."

The use of the *Clinical Thermometer* as a means of diagnosis and prognosis, was fortified by the experience of a great many clinicians. Especially the reporter dwelt upon the probable value of the thermometer in localizing diseases by the difference noticed in the temperature of each side.

DIPHThERIA.

The reporter said : "It would be a most curious volume that would contain an indexed enumeration of the remedies which have been vaunted as cures for diphtheria. The wildest jargon of the semi-barbarous age when toads and adders, and animal fluids the most loathsome, were made the ingredients of usual remedies, would be repeated in an intensified degree. Every shade of credulity has been exhibited both by the taker and giver of wonderful charms

to drive away the dreaded pestilence. Panic has seized households so that the mere mention of the word diphtheria was avoided. Physicians of mature judgment have 'lost their heads' and fallen in to the panic, and have 'tried' the pharmacy and therapeutics of the 'newspaper doctors.' But with all this apparent confusion some substantial work has been done."

After reviewing the literature of the germ-theory of the origin of diphtheria, Dr. Wood continued :

"Nothing is more desirable than to discover, isolate and describe the germ, but no investigation is more difficult. It is hard to avoid the suspicion that of the many learned men who speak of fungus spores and fungi, very few of them have sufficient knowledge of these botanical mysteries. For mysteries they are, as one can satisfy himself with an examination of the literature of this seclusive branch of botany. In this country, there are exceedingly few botanists who can speak with authority on the subject of mycological diagnosis; and even the best of them find it necessary to subdivide the study and devote all of their time to it. The careless way that some microscopists use the words 'fungi,' 'fungus spores,' and 'fungoid,' shows not only their lack of knowledge of the coarse botany, but utter ignorance of polymorphism of microscopic fungi and their life history. It is necessary to speak in this somewhat denunciatory way, because very many general practitioners are too prone to catch up the suggestions about a named fungus as the resting place of their pathological theories, and some hygienists are equally prone to administer dangerous or offensive 'germicides' to 'persons and things' upon the pure speculation of some microscopist who passes for scientific because he can mystify with names unknown to him.

"Earnest patient study in this direction is going to reveal something, but the pathologist who would not make and publish blunders about mycological forms, had better borrow the eyes of Cooke and Berkely, and Farlow and Ellis, and Raverel and Peck, and bide their time."

A review of treatment followed, which is too long to warrant an attempt to epitomize it.

Upon the subject of *Hydrophobia* the report was particularly full. The most interesting account of, all though under this head, was the admirable reported case of Dr. T. B. Curtis, of Boston, in which

the influence of curare is most minutely detailed. In this case "*in eight hours and a half three-fourths of a grain of curare were given, and no effect was visible except slight flushing of the face.*" Very little matter of an encouraging character as to treatment was elicited.

The Apyretic Treatment of Fever, by means of vegetable alkaloids, giving their relative value, was viewed from a personal clinical stand-point. Malarial fevers were especially considered, and the value of cinchona alkaloids shown to have undisputed preëminence.

The property of jaborandi and its alkaloid pilocarpia, to reduce febrile heat was discussed at length, with a decided leaning towards its great value. The reporter had seen defervescence established upon the copious sweating following the use of the drug, and he believed that its fame was yet to be greater than the celebrated secret remedy—Warburg's tincture.

The report concluded with a consideration of the treatment of *Hepatic Abscess*. Confidence was expressed in the treatment by aspiration, as set forth by Drs. J. C. Davis, W. A. Hammond and others during the last two years, and while very few could go so far as the latter writer in considering the mental phenomena as sufficient guarantee of the presence of abscess, to warrant aspiration, the truth would surely be found by sufficient clinical inspection.

This report was the first of the series and was looked forward by the Society with great interest, not only for the intrinsic value of the papers, but as a beginning of more systematic work in the record of the progress of the medical sciences.

Dr. G. G. Smith, Chairman of the Section on Materia Medica and Therapeutics asked for indulgence. Granted.

Dr. G. G. Thomas, Chairman of the Section on Pathology and Microscopy being absent, on motion of Dr. Wood, of Wilmington, his report was referred to the Committee on Publication without reading.

Dr. T. D. Haigh read a paper on "Rotation of Fœtal Head in the Blades of the Forceps."

Dr. O'Hagan spoke most feelingly of the long suffering of women in that period in obstetrical art, when everything was left to nature. He paid a most eloquent tribute to the forceps in hastening the delivery of the suffering mother. Dr. Haigh's paper had explained

to him a heretofore unknown phenomenon, one he had witnessed without really being able to arrive at a satisfactory solution of it. He moved the reference of Dr. Haigh's paper to the Committee on Publication.

Adjourned until 9 o'clock, A. M.

SECOND DAY—MORNING SESSION.

Wednesday, May 21st, 1879.

The Society was called to order promptly at 9 o'clock.

President Dr. Charles Duffy, Jr., in the chair.

The special order being the reading of the Annual Essay, Dr. M. Whitehead, of Salisbury, read his paper on Spondylitis.

Dr. J. K. Hall thought the paper just read by Dr. Whitehead had gone over the whole field embraced in the subject, and in such a masterly way that there was nothing more to say. The pathology and treatment had been viewed from every possible stand-point, and he for one was willing for this to go on record as a permanent contribution.

Dr. O'Hagan in seconding the motion, thought it was not proper that the Society should allow such a paper to be read, and then keep silence as to its merits. The mere reference to the Committee on Publication was not the only compliment it deserved. But he agreed with his friend, Dr. Hall, that the whole range of the subject had been traversed in such a thorough way that there seemed to be no salient points to discuss. He heartily thanked his confrère for the pleasure and instruction he had given him and the Society.

Motion for reference was carried.

The roll was called by the Secretary, Dr. Picot.

[The completed list will appear in the last day's proceedings].

Dr. Grissom, Chairman of the Committee on Credentials made the second partial report as follows :

To the Medical Society of North Carolina :

The Committee on Credentials beg leave to recommend for membership : Dr. D. Lindsay, of Kernersville, Forsythe County ; and Dr. S. B. Evans, of Statesville, Iredell County. And to report that Dr. H. T. Franklin and Dr. R. L. Cowan are duly accredited

delegates from Rowan County Medical Society; and that Dr. T. D. Haigh is also accredited as delegate, and Dr. W. C. McDuffie as alternate, from Cumberland County Medical Society to the State Society.

Respectfully submitted,

EUGENE GRISSOM, }
HUGH KELLY, } Committee.
C. TATE MURPHY, }

Adopted on motion of Dr. Debnam.

The hour for the organization of the North Carolina Board of Health under the new law, having arrived, the President announced that the Society was ready to proceed.

The report of the Secretary of the State Board of Health was read preliminary to and explanatory of the method of the election of the Board under the new law.

REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH.

To the Medical Society of North Carolina:

Since the last meeting of this Board held in Goldsborough from the 14th to the 17th day of May, 1878, the Committee entrusted with the execution of the law, have steadily pursued the object of their labors, the ultimate end of which was the building up of the Board by every means within their power.

The epidemic disaster of yellow fever in the valley of the Mississippi in the summer of 1878, was the great public calamity of the century, and like many other evils has wrought a good which probably would have taken many years to bring about. In November last, through the energy of the late lamented Dr. John M. Woodworth, Surgeon-General U. S. M. H., aided by zealous and influential sanitarians throughout the country, a conference on yellow fever was called, under the charge and auspices of the American Public Health Association. The meeting took place in Richmond, Va., and except to those unreasonable persons who look for seed-time and harvest in the same day, the conference was productive of great good. This is no place to review it, as the history of the movement is quite fresh in the memory of medical men throughout the world.

Recognizing the necessity of placing the North Carolina Board

of Health in communication with this movement, your Secretary undertook to take the matter in hand without further conference with the Committee for lack of time, and because he knew that the means to defray the expenses were not at hand.

Your Secretary was honored by being placed on the Advisory Committee of the American Public Health Association.

On the 2nd of January the President of the Association called the Executive and Advisory Committees to meet in conference at Washington, D. C. A full meeting was the result, and from these deliberations sprung the Act of Congress which created the National Board of Health. Soon after the General Assembly of North Carolina met, the Committee appointed at the Salem meeting in 1877, met in Raleigh, and but for the miscarriage of a letter to one of the members, it would have been a full meeting.

Several days were spent in deliberation. The final result was the offering of the Health Bill nearly as it now stands to the Legislature. Its passage was a great surprise and pleasure, although it was far from what we desired.

The bill is herewith presented :

AN ACT—SUPPLEMENTAL TO AN ACT CREATING A STATE BOARD
OF HEALTH.

The General Assembly of North Carolina do enact :

SECTION 1. That the Medical Society of North Carolina shall choose from its active members, by ballot, six members, and the Governor shall appoint three other persons, (one of whom shall be a civil engineer,) and these shall constitute the North Carolina Board of Health.

SEC. 2. That the North Carolina Board of Health shall take cognizance of the health interest of the citizens of the State ; shall make sanitary investigations and enquiries in respect to the people ; the causes of diseases dangerous to the public health, especially epidemics ; the sources of mortality ; the effects of locations, employments and conditions upon public health. They shall gather such information upon all these matters for distribution among the people, with the especial purpose of informing them about preventable diseases. They shall be considered the medical advisers of the State, and are herein specially provided for, and shall advise the government in regard to the location, sanitary construction and management of all public institutions, and shall direct the attention of the State to such sanitary matters as in their judgment affect the industry, prosperity, health and lives of the citizens of

the State. The Secretary of the Board shall make annually to the General Assembly, through the Governor, a report of their work for the year.

SEC. 3. The members of the Board of Health as elected by the State Medical Society, shall be chosen to serve, two for six years, two for four years, two for two years. Those appointed by the Governor shall serve two years. In case of death or resignation the Board will elect new members to fill the unexpired terms.

SEC. 4. The State Board shall have a President and Secretary, who shall be Treasurer, to be elected from the members comprising the Board. The President shall serve two years, and the Secretary and Treasurer six years. The Secretary and Treasurer shall receive a year for his services, but the other members of the Board shall receive no pay, except that while on actual duty at meetings of the Board, or on duty during the time special investigations are being pursued, that each member shall receive \$2.00 a day and necessary travelling expenses. These sums shall be paid by the Treasurer on duly authenticated requisitions signed approved by the President of the Board.

SEC. 5. There shall be an auxiliary Board of Health in each county in the State. These boards shall be composed of the physicians eligible to membership in the State Medical Society, the Mayor of county town, the Chairman of the County Commissioners, and the City Surveyor, where there is such an officer, otherwise the County Surveyor. From this number one physician be chosen by ballot to serve two years, with the title of Superintendent of Health. His duties shall be to gather vital statistics upon a plan designated by the State Board of Health. He shall make the medico-legal *post-mortem* examinations for coroner's inquests, and attend prisoners in jails, poor-houses and work-houses. Their reports shall be made regularly as advised by the State Board through their Secretary, and they shall receive and carry out as far as practicable such work as may be directed by the State Board of Health.

SEC. 6. The salary of the County Superintendent of Health is to be paid out of the county treasurer, upon requisition and proper voucher, as follows: The salary of the Superintendent of Health shall not exceed the amount paid by the city or county in 1878, for services rendered by the city or county to sick in jail, work-house and poor-house, and medical examinations for coroner's inquests.

SEC. 7. The organization of the North Carolina Board of Health shall be completed immediately after the passage of the same. The biennial meetings for the election of officers, shall, after the meeting of organization, be for the County Boards on the first day of January, and of State Board of Health on the first day of the annual meeting of the Medical Society of North Carolina.

SEC. 8. Monthly returns of vital statistics upon a plan to be

devised by the State Board of Health, shall be made by the County Superintendent, and a failure to report by the tenth of the month, for the preceding month, shall subject the delinquent Superintendent to a fine of one dollar for each day of delinquency.

SEC. 9. Inland quarantine shall be under the control of the County Superintendent of Health, who, acting by the advice of the local Board, shall see that diseases dangerous to the public health, viz: small-pox, scarlet fever, yellow fever, and cholera, shall be properly quarantined or isolated, (at the expense of the city or town in which it occurs). Any violation of the rules promulgated on this subject by the Superintendent of Health shall subject the offender to a fine of twenty-five hundred dollars and imprisonment for not longer than twenty days in the county jail. In case the offender be stricken with disease for which he is quarantinable, he will be subject to the penalty on recovery, without, in opinion of the Superintendent, it should be remitted. Quarantine of ports shall not be interfered with, but the officers of the local and State Boards shall render all aid in their power to quarantine officers in discharge of their duties upon request of the latter.

SEC. 10. *Abatement of Nuisances.*—Wherever and whenever a nuisance upon premises shall exist, which in the opinion of the County Superintendent of health is dangerous to the public, it shall be his duty to notify the parties occupying the premises, (or the owner of the premises if not occupied), of its existence, its character, and the means of abating it, in writing. Upon this notification the parties shall proceed to abate the nuisance, but failing to do this shall pay a fine of one dollar a day dating from twenty-four hours after the notification has been served: *Provided, however*, that if the party notified shall make oath or affirmation before a magistrate of his or her inability to carry out the directions of the Superintendent, it shall be done at the expense of the town or city. In the latter case the limit of the expense chargeable upon the town or city shall not be more than one hundred dollars in any case.

SEC. 11. *Vaccination.*—The Secretary of the State Board of Health shall keep a supply of fresh vaccine virus at his command, and he shall issue quantities, in value not to exceed one dollar for one requisition, to County Superintendents in case of a threatened outbreak of small-pox. The County Superintendents shall vaccinate and re-vaccinate all applying for such service, free of charge, the virus for such purposes to be furnished by the Secretary of the State Board of Health, at market rates. The County Superintendent shall vaccinate every person admitted into a public institution, (jail, work-house, poor house, public school), as soon as practicable, without he is satisfied upon examination that the person is already successfully vaccinated. On the appearance of a case of small-pox in a neighborhood, all due diligence shall be used by the Superintendent that warning shall be given, and all persons not

able to pay, to be vaccinated free of charge by him. The vaccine for this purpose shall be paid by the corporation in which the Superintendent serves.

SEC. 12. Bulletins of the outbreak of diseases dangerous to the public health shall be issued by the State Board whenever necessary, and such advice freely disseminated to prevent and check the invasion of disease into any part of the State. It shall also be the duty of the Board to enquire into any outbreak of disease, by personal visits or by any method the Board shall direct. The expenses [compensation] of members on such duty shall be five dollars a day, and the necessary travelling expenses.

SEC. 13. Special meetings of the State Board of Health may be called by the President, through the Secretary. The regular annual meetings shall be held at the same time and place of the State Medical Society, at which time the Secretary shall submit his annual report.

SEC. 14. When the County Superintendent of health shall in the course of his investigation required at coroner's inquest, think it necessary to subserve the ends of justice that a chemical analysis of the *viscera* or fluids of the body be made, he shall carefully pack up and seal the suspected article in a proper receptacle in the presence of a witness and forward it to the chemist of the agricultural station for analysis. (Such analysis shall be made free of charge, and be returned to the coroner of the county, such analysis having precedence over other matters of investigation not of a similar character, then in the laboratory of the chemist). Analysis for purposes connected with the hygienic duties of the Superintendent of health shall in like manner be made by the said chemist, upon requisition signed and approved by the Secretary of the State Board of Health. Such analysis will include soil, drinking water, articles of food, air, &c., to be packed for transmission by direction of the chemist of the agricultural station.

SEC. 15. For carrying out the provisions of this Act two hundred dollars is hereby annually appropriated, to be paid on requisition signed by the Treasurer and President of the State Board of Health, and the printing and stationery necessary annually for the Board be furnished on requisition upon the State printer. A yearly statement shall be made to the Legislature of all moneys received and expended in pursuance of this Act.

SEC. 16. All previous Acts conflicting with this are hereby repealed upon the passage of this Act.

Ratified the 14th day of March, 1879.

Responding to a call from the National Board of Health for a conference with State Sanitary officers, your Secretary assumed the responsibility to represent the State Board in this conference. It was held in Atlanta, Ga., on the 5th, 6th, 7th and 8th of May. At this meeting many questions of importance to us were discussed,

and it is believed that the formulation of these views there expressed will mark an era in our new work.

Your Secretary deemed it of great importance to begin early to cultivate proper relations with the National Board, and believes that this part of his voluntary work will be approved of by the friends of the movement in North Carolina.

I present herewith the blanks issued for your inspection. I congratulate the Medical Society of North Carolina upon the healthy development which by the efforts of her members she has been able to work out, but must remind them that we are just at the beginning of primary work, the proper performance of which will decide whether or not we are true sanitarians, and deserve further powers and privileges from the people of North Carolina.

Respectfully,

THOMAS F. WOOD,
Secretary.

Motion by Dr. Debnam that the gentlemen who had passed the Board be at once admitted to take part in the business about to ensue.

Dr. Grissom explained that the Board of Examiners was not quite ready with their report.

Shortly afterwards the following was submitted by the Chairman of the Committee on Credentials, Dr. Grissom :

To the Medical Society of North Carolina :

The Committee on Credentials beg leave to report for membership the following named gentlemen recommended by the Board of Medical Examiners :

Dr. James M. Covington, Rockingham.

“ Cornelius M. Battle, Rocky Mount.

“ Charles M. Glenn, Greensborough.

“ Edward Lindsay, Greensborough.

“ D. M. Prince, Laurel Hill, Richmond County.

“ O. P. Robinson, Fayetteville.

“ W. R. Hollinsworth, Mt. Airy.

“ C. E. Bradsher, Hurdle's Mills, Person County.

“ H. W. Lee, Raleigh.

“ Hubert Haywood, Raleigh.

Dr. Turner E. Balsley, Greensborough.

Respectfully submitted,

EUGENE GRISSOM, }
HUGH KELLY, } Committee.
C. TATE MURPHY, }

On motion of Dr. Thomas F. Wood, Dr. A. R. Ledoux, Chemist and member of the North Carolina Board of Health on part of the State, being present, was invited to take part in the deliberations of the Society. Carried.

The report of the Secretary, Dr. Wood, and the new law being read, enquiries from all parts of the hall were put, asking for further elucidation of the law.

Dr. C. T. Murphy asked how to proceed in cases that medico-legal chemical analyses were required by the County. The circular issued from the Chemist of the Board, Dr. Ledoux, was read as follows :

METHOD OF PROCEDURE IN CASES OF SUSPECTED POISONING.

LABORATORY OF THE N. C. EXPERIMENT STATION,

CHAPEL HILL, April 24th, 1878.

To the Coroners and County Superintendents of Health of the State of North Carolina :

I beg to call attention to Section 14 of "An Act Supplemental to an Act creating a State Board of Health passed by the late Assembly and ratified on March 14th. This Section is as follows :

"SEC. 14. When the County Superintendent of Health shall in the course of his investigation required at coroner's inquest, think it necessary to subserve the ends of justice that a chemical analysis of the *viscera* or fluids of the body be made, he shall carefully pack up and seal the suspected article in a proper receptacle in the presence of a witness and forward it to the chemist of the agricultural station for analysis. (Such analysis shall be made free of charge, and be returned to the coroner of the county, such analysis having precedence over other matters of investigation not of a similar character, then in the laboratory of the chemist)." * * *

The Board of Agriculture, recognizing not only the claims of the law but the claims of humanity upon them, have made arrangements by which the analyses in question can be made through the Experiment Station. Knowing that were I compelled to make such analysis in person, it would occasion great delay and serious interference with my work, especially during my long absences from

my post when testifying at Court, &c., they adopted the following resolution :

*“ Resolved, That the Chemist of the Board be authorized to employ such additional labor as may be necessary to prosecute the analyses in cases of suspected poisoning, as required by Section 14 of An Act Supplemental to an Act creating a State Board of Health, at an expense for the same of not more than * * * dollars per annum.”*

In compliance with the above resolution of the Board, I have secured the coöperation of Prof. A. F. Redd, of the University, who will devote himself to any cases which may arise under the provisions of the law above cited. Prof. Redd has made all the analyses of this character that have been required in the State during the last two years, so far as I am informed. Your attention is called to the following instructions which should be followed as nearly as possible to comply with the law, and to secure an analysis which will stand in Court.

1st. Except in special cases, it will be sufficient to place the stomach, the whole of the liver and spleen and the bladder each in a separate, perfectly clean glass jar, with tightly fitting glass top (a fruit jar serves well). Care should be taken that none of the contents of the stomach or bladder escape. No disinfectant or preservative should be added in any case.

2d. Seal each jar thoroughly and label distinctly with the name of its contents.

3d. Secure, if possible, any vomit or urine voided immediately before death, and also any liquids, powders or other substances which are suspected of having caused death, or any vials or other receptacles which may have contained the poison, sealing each as before.

4th. Let these jars be delivered at the Station by some one, properly authorized, in person. Do not send by express. The person bringing the jars should never allow them (or the receptacle in which they may be packed), to get out of his sight, unless to go under a lock, to which the carrier holds the key. The messenger will bring the jars to the Experiment Station and deliver them to me, or to Prof. Redd in my presence.

The expenses of these analyses will be defrayed by the Department of Agriculture, but the pay of Prof. Redd in attendance upon

Court will still be regulated by the laws specially providing for the remuneration of witnesses and experts.

Respectfully,

ALBERT R. LEDOUX,

Chemist to the Department of Agriculture.

Dr. Foote, of Warrenton, made some remarks on the organization of the Board of Health in his county, discussing the bearings of the new law upon the present status in Warren.

The Secretary of the Board said in reply that he thought these County Boards were not mere voluntary organizations, but were as compulsory by the law as any on the Statute Book. That no other provision was made for the care of the sick in public institutions in the counties except such as would be given by the County Superintendents of Health. That the Superintendents were elected from among the *physicians* composing the Board, and that their pay was to be what the sum total of services rendered to the county for the sick in jail, poor-house, work-house, and medico-legal examinations for the year 1878. That licentiates of the Board of Medical Examiners, or those physicians not coming under its provisions by reason of having begun the practice of medicine prior to 1859, were recognized as eligible within the meaning of the law.

A general discussion of the bearing of the bill, reviewing its benefits, its faults, and short comings was indulged in, by several members. After this the Society proceeded to ballot.

Dr. P. E. Hines, of Raleigh, moved that the election of the Board be proceeded with and that the election of the two members for six years be taken up.

He nominated

Dr. S. S. Satchwell, of Rocky Point, Pender County.

Dr. Thomas F. Wood, of Wilmington.

Dr. Satchwell and Dr. Wood were unanimously elected.

Dr. Satchwell returned thanks for the complimentary vote he had received.

On motion of Dr. C. Tate Murphy, the two members to serve four years were balloted for.

Dr. C. J. O'Hagan, Geo. A. Foote, James McKee, Wm. R. Wilson, and Eugene Grissom were put in nomination. The choice was as follows, to serve four years :

Dr. Charles J. O'Hagan, Greenville.

“ George A. Foote, Warrenton.

The remaining two members to serve for two years were ballotted for, resulting in the election of

Dr. M. Whitehead, of Salisbury.

“ R. L. Payne, of Lexington.

The Secretary then declared the following members of the North Carolina Board of Health to be elected :

For six years—

Dr. S. S. Satchwell, Rocky Point, Pender County.

“ Thomas F. Wood, Wilmington.

For four years—

Dr. Charles J. O'Hagan, Greenville.

“ George A. Foote, Warrenton.

For two years—

Dr. M. Whitehead, Salisbury.

“ R. L. Payne, Lexington.

The Committee on Credentials made the following partial report :
To the Medical Society of North Carolina :

The Committee on Credentials beg leave to recommend the following named gentlemen for membership :

Dr. W. S. Coble, Brick Church, Guilford County.

Dr. R. W. Thomas, Thomasville.

We also report the following names recommended by the Board of Examiners :

Drs. Wm. P. Beall, S. B. Jones, J. M. Baker, H. T. Trantham,
W. P. Mercer, A. D. McDonald, W. J. Gilbert, J. J. Cox, W. F.
Cook, S. W. Stevenson and Edward A. Speed.

EUGENE GRISSOM, }
HUGH KELLY, } Committee.
C. TATE MURPHY, }

The members of the newly elected Board of Health, were requested to meet at the McAdoo House, immediately after adjournment of the Afternoon Session, to elect officers.

Dr. James McKee, of Raleigh, introduced the following resolution which was carried :

WHEREAS, At the session of this Society, held in Raleigh, in May, 1872, Dr. W. W. Gaither was, by resolution, elected an honorary member of the same ; and

WHEREAS, It does not stand as a matter of record upon the

books of the Secretary, but does upon those of the Treasurer ; and WHEREAS, Dr. Gaither has resumed the practice of his profession and desires to be in active membership with the Society.

Resolved, That the Treasurer be authorized from and after this meeting to transfer his name to the list of paying members, and that this be made a matter of record.

Adjourned until 3 o'clock P. M.

SECOND DAY—AFTERNOON SESSION.

Wednesday, May 21st, 1879.

Meeting called to order promptly at 3 o'clock by the President, Dr. Charles Duffy, Jr.

Dr. W. W. Gaither introduced the following resolution :

Resolved, That our members in Congress be earnestly requested to urge the passage of a bill, immediately, freeing cinchona bark and all its products; from all import duty. Carried.

Upon a call for written communications, Dr. R. H. Lewis, of Raleigh, read on the "Spectacles in Youth."

Dr. Picöt read letters from Drs. Ramsay, and A. B. Pierce, regretting their inability to attend.

Dr. O'Hagan thought there was no question of more practical value than the one treated of in Dr. Lewis' paper, and none that had a wider range of usefulness. There are moral troubles which arise from optical disturbances little understood by the general practitioner. The illustrations introduced were some myopic cases. The New York *Medical Record* had an account of the same subject before the Medical Society of New York. Dr. Hermann Knapp called attention to moroseness resulting from myopic eyes. For these and many other reasons he deemed Dr. Lewis' paper one of unusual importance, and very timely, and he thought the thanks of the Society ought to be tendered him, and that it be referred to the Committee on Publication.

Dr. Thomas J. Moore read a paper illustrating views of Dr. Chisholm, of Baltimore—the case being one of gun-shot wound of the eye.

Dr. C. Tate Murphy moved the reference of Dr. Moore's paper to the Committee on Publication.

The Committee on Obituary made the following report :

To the Medical Society of North Carolina :

The Committee beg to submit the following report :

We have examined the roll of membership, and find those of our members deceased to-wit: J. A. Gibson, late of Concord, F. N. Luckey, late of Rowan county, and G. H. Macon, Littleton, N. C.

Resolved, That in the death of these brethren the Society has sustained a loss of three of her honored members, and the sympathies of the Society are hereby tendered to the bereaved families of the deceased.

JAMES K. HALL,	} Committee.
JAMES F. LONG,	
W. T. CHEATHAM,	

Dr. M. Whitehead moved that the Essayist be allowed to choose his own subject. Carried.

Dr. W. C. McDuffie, of Fayetteville, read a paper on "Puerperal Eclampsia," which, on motion of Dr. Shaffner, was referred to the Committee on Publication.

Dr. Wm. R. Wood read a paper on the "Use of Sulphur in the Treatment of Diphtheria."

Referred on motion of Dr. McKee to the Committee on Publication.

Dr. R. F. Lewis, of Lumberton, read a paper on "Puerperal Eclampsia with Pyophthalmitis."

Referred, on motion of Dr. W. R. Wilson to the Committee on Publication.

Dr. M. Whitehead reported a case of entire absence of clitoris, vagina and uterus. The patient had well developed mammae, usual hairy covering of the mons veneris. He could easily pass the finger into the bladder through the urethra. The partition between the bladder and the rectum was very thin. He could pass his finger up both organs. There was no menstrual molimen, and no cul de sac.

Dr. R. K. Gregory, of Charlotte, reported the case of an Irishman. He had had violent pains in the bladder, with passage of pus from the bladder. There was great vesical tenesmus. Carbolic acid solution was injected into the bladder. The patient passed 400 hairy worms from the bladder; the largest was half an inch, from that to the size of a broomstraw.

D. J. H. Hall had also a case in the same town, in which the patient was afflicted for the greater part of eight or ten years.

The Committee on Credentials made the following partial report :
To the North Carolina Medical Society :

The Committee on Credentials respectfully recommend Dr. J. M. Tomlinson, Bush Hill, Randolph county, for membership ; and report the following named gentlemen recommended by the Board of Examiners :

Dr. J. A. Sexton, Raleigh, N. C.

“ J. T. Sledge, Middleburg, N. C.

“ R. H. Hargrave, Robesonville, Martin County.

“ J. T. Winston, Youngsville, Franklin County.

“ J. L. Gunn, Yanceyville.

“ C. A. Swindell, Greenville, Pitt County.

“ H. F. Burgin, Marion, N. C.

“ W. L. Abernethy, Hickory, Catawba County.

EUGENE GRISSOM, }
 HUGH KELLY, } Committee.
 C. TATE MURPHY, }

The President announced that the address of Dr. Lane, the annual orator would be delivered in the Benbow Hall at 8 o'clock, and that the medical profession and public generally were invited to attend.

The Society assembled in a body at 8 o'clock on Wednesday night in Benbow Hall, to listen to the address of the orator, Dr. Wm. W. Lane, of Wilmington. There was a large audience of ladies and gentlemen to grace the occasion with their presence.

The speaker was listened to with the closest interest. He reviewed the history of sanitary and medical science, but dwelt more particularly upon the development of modern therapeutics, and its relations to existing physiology.

[See supplement].

Resolved, That the thanks of the Society be tendered to Dr. Lane for his able and interesting address, and that a copy be solicited for reference to the Committee on Publication.

Adjourned until 9 o'clock, A. M.

THIRD DAY—MORNING SESSION.

Thursday, May 22, 1879.

The Society was called to order promptly at 9 o'clock.

President Dr. Charles Duffy, Jr., in the chair.

Dr. M. Whitehead moved to pay the travelling expenses of the Treasurer, as some slight testimonial of the appreciation of the Society of his dutiful services. Carried.

Dr. S. S. Satchwell, of Pender County introduced the report of the Committee appointing Dr. Thomas J. Moore, of Charlotte, as Essayist for the session of 1880.

Dr. M. Whitehead, of Salisbury, introduced the following resolution :

Resolved, That we again endorse the NORTH CAROLINA MEDICAL JOURNAL and would earnestly urge upon the members of the profession in the State, and of this Society its support by purse and pen, and we regard its success as of vast importance to the profession of the State.

Dr. C. Tate Murphy in seconding the resolution said he had prepared a similar resolution himself, and he was forestalled by his friend, Dr. Whitehead. This made him all the more sure that his judgment in the course the Society should pursue was plain. We should give our united endorsement to this work. It was a work of the whole profession, and had shown its ability and usefulness.

Dr. T. D. Haigh, of Fayetteville, thought the NORTH CAROLINA MEDICAL JOURNAL was a great success. It has gained every month in strength and power, and this was all due to the energy and discrimination of the editors. He would call the attention of the Society to the indisposition on the part of medical men to appear in print, especially those in the country. They are too prone to believe that the cases occurring in their practice of not sufficient importance for the public professional eye ; whereas, well recorded cases of every day occurrence were the sure guides to be followed by general practitioners, rather than the rare cases only seen in hospitals. The editors had a right to expect aid from every member of the State Society. He would not speak of the ability of the editors, for that was too widely recognized to require a word from him.

Dr. P. E. Hines, of Raleigh, endorsed what Dr. Haigh had said. The country practitioner in his quiet way, working out cases at the bedside without an opportunity of consulting his professional friends or his books, did the sort of work that has made a name for the general practitioners in America. Dr. Marshall Hall in his visit to this country recognized the true worth of this important class.

They are the conservative element in the science and art of surgery and medicine in this country, and their yet unwritten experience is what is yet to add largely to the reputation of American physicians. Their duty is to clearly sustain the JOURNAL by all means in their power.

Dr. Whitehead's resolution was unanimously adopted.

[The report of the Committee on Credentials here presented will appear in another place].

Dr. R. K. Gregory then called the attention of the Society to some appliances of his own devising.

First.—The appliance of the microphone to the stethoscope, so as to develop audibly the minutest abnormal sounds.

Second.—A model for a sphygmograph.

Third.—A self registering tape for measuring the respiration.

A full description with illustration is promised for the appendix.

Dr. Satchwell introduced Dr. James F. Long, and announced that he had carefully prepared an address on the "Use and Abuse of Alcoholic Drinks."

Dr. Long's address was received with marked approbation.

Dr. Hines offered his sincere thanks for the very instructive and magnificent address of Dr. Long. Dr. George B. Wood's last advice to the class in which he graduated was—"Look well before administering alcohol. He would impress the importance of the same warning so truthfully painted in words by Dr. Long upon all present. It was the great moral question of the day, and the medical profession had a vast influence to wield for good or for evil, in the very beginning of drinking habits.

Dr. C. Ta'e Murphy also endorsed most heartily the tenor of Dr. Long's address, and thought it was high time the profession was sounding the alarm from their scientific stand-point.

He moved that Dr. Long be requested to furnish the Committee on Publication with a copy of his address. Carried.

Dr. W. W. Gaither reported *first* a case of labor that he attended in which, upon examination, he found there was a tumor complicating the delivery. *Second.*—A case of "Spontaneous Evolution."

Dr. Hines reported a case showing the power of nature unaided to convert an apparently difficult presentation into a natural one, and effect delivery.

Dr. C. Tate Murphy reported a case of difficult labor, shoulder presentation, in which by changing the position of the mother, delivery was effected without further trouble.

Dr. I. W. Faison reported three cases of reflex phenomena resulting from congenital phimosis, with adhesions of the prepuce to the glans.

In the *first* case the reflex phenomena were weakness in the lower extremities and a stumbling gait. A touch on the prepuce brings about spasm. In the *second* case there was also wakefulness, screaming at night, stumbling and modified paralysis of the muscles of the neck. In the *third* case the symptoms were less marked. Sleeplessness and jactitation were prominent. In each of the cases he broke up the adhesions with his fingers, or dissected them with the bistoury, a cure resulting in each case.

Dr. R. K. Gregory called attention to pytalism produced by the use of salicylic acid, and the salleylates. It was to him a new phenomenon, and was worth mentioning more particularly as he had not seen it recorded in any work at his command.

Dr. A. G. Carr, of Durham, exhibited a phosphatic calculus weighing six ounces, removed by the left lateral perineal incision. The original incision had to be greatly enlarged to admit of its passage.

Dr. G. A. Foote, of Warrenton, reported a case of bloodless tracheotomy.

Dr. Richard H. Lewis, of Raleigh, reported a case of syphilitic or bital nodes, pressing on the third pair of nerves causing strabismus.

Most of the remaining morning session was passed in conversational reports of medical and surgical cases, which it was impossible for the Secretary to report :

Dr. Hines introduced the following resolution :

Resolved, That a committee of three be appointed to examine the law establishing the Medical Board of Examiners, who shall select such sections of the law, as they shall think best that the profession and public should be thoroughly acquainted with.

Resolved further, That this Committee be instructed to have all the sections of the law selected by it published in at least six weekly newspapers in the State having the largest circulation, and such other weeklies and daily papers as it may deem best for the information of the public, for at least, three months in the weeklies and one month in the daily papers. To be published before the next annual meeting of this Society. Carried.

411 TRANSACTIONS MEDICAL SOCIETY OF NORTH CAROLINA.

The committee appointed to carry out the resolution is composed as follows : Dr. P. E. Hines, Raleigh ; Dr. W. T. Ennett, Asheton, Pender county ; and Dr. H. T. Bahnson, Salem.

Adjourned until 3 o'clock P. M.

THIRD DAY—AFTERNOON SESSION.

Thursday, May 22, 1879.

The Society was called to order promptly at 9 o'clock.

President Dr. Charles Duffy, Jr., in the chair.

Dr. Eugene Grissom introduced a resolution creating a new Section on Otology and Ophthalmology. Adopted.

Dr. Bahnson, Secretary of the Board of Medical Examiners, introduced the following resolution :

Resolved, That candidates who pass the Board of Examiners at the present session, but too late to be announced to the Society before their adjournment, be declared members of the Society, and be so enrolled. Carried.

The Committee on Nominations made the following report, which was adopted :

To the Medical Society of North Carolina :

The Nominating Committee beg leave to submit the names of the following gentlemen as officers for the year 1879 :

For President :

Dr. J. F. Shaffner, Salem.

For Vice-Presidents :

Dr. J. K. Hall, Greensborough.

“ W. C. McDuffie, Fayetteville.

“ W. R. Wilson, Granville.

“ R. F. Lewis, Lumberton.

Treasurer :

Dr. A. G. Carr, Durham.

Secretary :

Dr. L. J. Picöt, Littleton.

Orator :

Dr. Eugene Grissom, Raleigh.

DELEGATES TO AMERICAN MEDICAL ASSOCIATION.

- Dr. F. M. Rountree, Hookerton.
" Charles Duffy, Jr., Newbern.
" H. M. Alford, Greensborough.
" J. J. Summerell, Salisbury.
" Willis Alston, Littleton.
" John McDonald, Washington.
" H. T. Bahnson, Salem.
" W. I. Royster, Raleigh.
" Walter C. Murphy, Clinton.
" Walter Debnam, Eaprsborough.
" S. B. Flowers, Mt. Olive.
" P. B. Barringer, Dallas.

DELEGATES TO VIRGINIA MEDICAL SOCIETY.

- Dr. W. T. Cheatham, Henderson.
" A. A. Hill, Lexington.
" I. W. Faison, Fulton.
" James McKee, Raleigh.
" N. S. Siewers, Salem.
" C. J. O'Hagan, Greenville.
" Wm. R. Wood, Scotland Neck.
" W. A. B. Norcom, Edenton.

DELEGATE TO AMERICAN PUBLIC HEALTH ASSOCIATION.

Dr. Thomas F. Wood, Wilmington.

PUBLISHING COMMITTEE.

- Dr. Thomas F. Wood, Wilmington.
" W. W. Lane, Wilmington.
" W. T. Ennett, Asheton.
" L. J. Picöt, Littleton.

COMMITTEE TO APPOINT ESSAYIST.

- Dr. S. S. Satchwell, Rocky Point.
" M. Whitehead, Salisbury.
" W. W. Gaither, Lexington.

COMMITTEE ON OBITUARIES.

- Dr. J. K. Hall, Greensborough.
" J. F. Long, Newberne.
" W. T. Cheatham, Henderson.

BOARD OF CENSORS.

Dr. E. Burke Haywood, Raleigh.

“ A. W. Knox, Raleigh.

“ R. F. Lewis, Lumberton.

Respectfully submitted,

R. L. PAYNE,

H. W. FAISON,

W. C. McDUFFIE,

C. J. O'HAGAN,

JAS. McKEE,

Committee.

SECTIONS.

The President appointed the following gentlemen Chairmen of Sections :

Surgery and Anatomy.—Dr. W. C. McDuffie, Fayetteville.

Obstetrics and Gynecology.—Dr. Wm. R. Wilson, Townesville.

Practice of Medicine.—Dr. James McKee, Raleigh.

Materia Medica and Therapeutics.—Dr. C. Tate Murphy, Clinton.

Microscopy and Pathology.—Dr. Henry Tull, Kinston.

Ophthalmology and Otolaryngology.—Dr. R. H. Lewis, Raleigh.

A letter was read by permission from Dr. John McCormick, by Dr. Eugene Grissom. Dr. McCormick sets forth that “diphtheria is modified by measles and scarlatina, as much so as variola is modified by cow-pox,” and it is his firm conviction “that the action of measles and scarlatina will be as effectual in rendering diphtheria diphtheroid, as vaccine renders variola varioloid.” He hoped the Society would ask that the list takers be instructed by the proper authorities to ask the following questions :

“Have you lost any member of your family from diphtheria?”

“Had the person ever had measles or scarlatina?”

No action taken.

Dr. Charles Duffy, Jr., the retiring President, then delivered his address on “The Conditions Essential to the Propagation and Spread of the Infectious Diseases.”

Dr. Charles J. O'Hagan expressed the common sentiment of the Society in its indebtedness to Dr. Duffy for the address just delivered, and moved its reference to the Committee on Publication.

[See Appendix].

Dr. Grissom paid a handsome tribute to the patience, courtesy and ability which the retiring President had performed his duties, and upon his motion a vote of thanks was tendered to him.

The President elect, Dr. J. F. Shaffner, of Salem, was conducted to the chair.

He thanked the Society for the honor done him by this kind act of partiality. He would endeavor to serve the Society to the best of his ability.

Upon the call for nomination for the next place of meeting, Dr. Thomas F. Wood proposed Wilmington, and the 2d Tuesday in May as the day.

There was no opposition and Wilmington was selected by acclamation.

Dr. C. Tate Murphy offered a vote of thanks to the citizens and the medical profession of Greensborough, for their unbounded hospitality. Carried by applause.

Dr. Picot offered a vote of thanks to the different railroad lines for their generous reduction of fare. Carried.

Dr. Foote offered a vote of thanks to Dr. Benbow for the use of the Hall in which the meetings were held.

On motion of Dr. Satchwell, the Society adjourned to meet in Wilmington on the 2d Tuesday in May, 1880.

The following is the complete list of

NEW MEMBERS FOR 1879—RECAPITULATION.

Dr. John W. Smith, Reidsville.	Dr. D. M. Prince, Laurel Hill.
" C. C. Peacock, Wilson.	" J. A. Sexton, Raleigh.
" B. A. Cheek, Greensborough.	" S. B. Evans, Statesville.
" J. A. McLean, McLeansville.	" N. Mc. Johnston, Durham.
" J. G. Ector, Friendship.	" J. T. Sledge, Middleburg.
" Hubert Haywood, Raleigh.	" R. H. Hargrove, Robersonville.
" James M. Covington, Rockingham.	" J. T. Winston, Youngsville.
" Henry W. Lee, Raleigh.	" H. P. Burgin, Marion.
" W. R. Hollingsworth, Mt. Airy.	" C. A. Swindell, Greenville.
" O. P. Robinson, Fayetteville.	" W. L. Abertheny, Hickory.
" C. E. Bradsher, Hurdle's Mills.	" John Chapel Walton, ———.
" B. W. Thomas, Thomasville.	" J. M. Tomlinson, Bush Hill.
" S. W. Stevenson, Mooresville.	" Jullan M. Baker, Tarborough.
" H. T. Trantham, Salisbury.	" T. Eugene Balsley, Greensborough.
" W. P. Beall, Greensborough.	" B. G. Harris, High Point.
" Wm. A. Coble, Brick Church.	" A. D. Lindsay, Kernersville.
" A. D. McDonald, Wilmington.	" J. L. Gunn, Yanceyville.
" S. B. Jones, Charlotte.	" Thos. E. Anderson, Statesville.
" Charles M. Glenn, Greensborough,	" C. S. Battle, Rocky Mount.
" Joseph J. Cox, New Garden.	

REVISED ROLL

Of Members in the Order in which they Signed the Constitution.

Those marked * were present at the last meeting. Those marked † deceased.

Dr. E. Strudwick, Hillsborough.	Dr. Elisha Porter, Rocky Point.
" W. G. Hill, † Raleigh.	" Walter Debnam, * Earpsborough.
" N. J. Pittman, Tarborough.	" F. J. Haywood, Jr., Raleigh.
" J. B. Jones Charlotte.	" C. R. Barron, Tolsnot.
" R. B. Haywood, * Raleigh.	" B. P. Alston, Warrenton.
" Jas. B. Dunn, Raleigh.	" G. G. Smith, * Concord.
" W. George Thomas, Wilmington.	" F. N. Luckey, † Salisbury.
" S. S. Satchwell, * Rocky Point.	" D. N. Patterson, Mangum.
" J. R. Mercer, Tarborough.	" Joel G. King, Warrenton.
" E. B. Haywood, Raleigh.	" J. B. Sugg, Tarborough.
" Jas. P. Bryan, Kinston.	" H. T. Bahnsen, * Salem.
" A. B. Pierce, Halifax.	" Geo. N. Ennett, Saunders' Store.
" H. W. Faison, * Faison's Depot.	" Chas. Duffy, Jr., * Newbern.
" Allman Holmes, Clinton.	" W. W. Lane, * Wilmington.
" E. A. Anderson, Wilmington.	" R. L. Cowan, * Rowan Mills.
" C. T. Murphy, * Clinton.	" R. F. Lewis, * Lumberton.
" Hugh Kelly, * Statesville.	" Jas. S. Robinson, Elizabeth.
" F. M. Henderson, Concord.	" W. J. Love, Wilmington.
" J. J. Summerell, * Salisbury.	" J. C. Walker, Wilmington.
" P. E. Hines, * Raleigh.	" David D. Sloan, † Sampson County.
" M. Whitehead, * Salisbury.	" James McKee, * Raleigh.
" J. G. Ramsey, Rowan Mills.	" L. L. Alexander, New Hanover Co.
" J. A. Gibson, * Concord.	" Willis Alston, Littleton.
" R. H. Winborne, Edenton.	" W. J. H. Bellamy, Wilmington.
" J. K. Hall, Greensborough.	" Geo. F. Lucas, Point Caswell.
" Geo. A. Foote, Warrenton.*	" Walter Brodie, Whitaker's.
" W. R. Sharp, † Fulton.	" A. S. Jones, Warrenton.
" Eugene Grissom, * Raleigh.	" H. Otis Hyatt, * Kinston.
" R. L. Payne, * Lexington.	" J. L. Knight, * Tarborough.
" F. M. Rountree, * Snow Hill.	" C. S. Killebrew, Tarborough.
" W. A. Collett, Morganton.	" W. T. Ennett, * Rocky Point.
" E. F. Ashe, Wadesborough.	" D. McL. Graham, Point Caswell.
" D. B. Woods, Rowan Mills.	" W. I. Royster, Raleigh.
" Chas. J. O'Hagan, * Greenville.	" George Fields, Warrenton.
" W. A. B. Norcom, * Edenton.	" C. G. Cox, † Richlands.
" J. F. King, Wilmington.	" G. Gillett Thomas, Wilmington.
" J. W. Jones, * Tarborough.	" V. N. Seawell, Wallace.
" J. F. Long, * Washington.	" Geo. S. Attmore, Newbern.
" John K. Ruffin, * Wilson.	" S. B. Flowers, * Mt. Olive.
" C. W. Knight, * Tarborough.	" P. W. Young, Oxford.
" J. B. Hughes, New Bern.	" John McDonald, Washington.
" W. W. Gaither, * Lenoir.	" Francis Duffy, Newbern.
" J. C. Gidney, Shelby.	" L. L. Staton, Tarborough.
" William Little, * Raleigh.	" T. B. Germon, Ridgeway.
" Wm. R. Wood, * Scotland Neck.	" A. G. Carr, * Durham.
" S. H. Hicks, * Rocky Point.	" John A. Allison, Statesville.
" M. T. Savage, Scotland Neck.	" J. B. Gaither, Salisbury.
" Thomas F. Wood, * Wilmington.	" J. M. Hadley, * La Grange.
" Thos. C. Powell, Rocky Mount.	" W. G. Johnson, Farmington.
" Franklin Hart, Tarborough.	" W. J. McLinder, Wadesborough.
" Geo. L. Kirby, Goldsborough.	" Josh. W. Vick, * Selma.
" L. A. Stith, Wilson.	" Isaac C. Green, Warrenton.
" J. F. Shaffner, * Salem.	" P. L. Murphy, Wilmington.
" G. H. Macon, † Lillington.	" Joseph Graham, * Charlotte.
" W. T. Cheatham, * Henderson.	" J. M. Miller, Charlotte.
" Robt. I. Hicks, * Williamsborough.	" J. L. Henderson, Mt. Pleasant.

Dr. J. R. Wilson, Harris' Depot.	Dr. M. J. DeRossett, New York City.
" Richard Anderson, Albermarle.	" W. A. Murdock, Mt. Ulla.
" J. S. Blair, Harris' Depot.	" James W. McNeil, Fayetteville.
" J. F. Miller, Goldsborough.	" J. D. McMillan, Lumberton.
" S. J. Alexander, Randalsburg.	" W. H. McKinnon, Fayetteville.
" H. K. DeArmand, Pineville.	" Jos. Hollingsworth, Mt. Airy.
" J. P. McCombs,* Charlotte.	" Robert W. Glenn,* Greensborough.
" T. S. Duffy,† Rutherfordton.	" Beverly Jones,* Forsythe County.
" O. P. Houston, Mt. Ulla.	" Adam E. Wright, Wilmington.
" S. J. Gilmer, Concord.	" Nat. S. Henderson,* Pelham.
" John Fink,* Concord.	" Jeff. Scales,* Reidsville.
" W. H. Lilley,* Concord.	" Geo. W. Long,* Graham.
" Thomas J. Moore,* Charlotte.	" Richard H. Lewis,* Raleigh.
" E. S. Foster,* Louisburg.	" Geo. W. Graham, Raleigh.
" A. A. Hill,* Lexington.	" Preston Rowan, Winston.
" J. H. Baker, Tarborough.	" J. D. Roberts, Magnolia.
" J. B. Hall, Scotland Neck.	" L. H. Hill,* Germanton.
" J. M. Richardson, Lincolnton.	" J. A. Bitting, Germanton.
" T. D. Haigh,* Fayetteville.	" W. W. Wilhelm, Mooresville.
" Alex. Montague.	" W. R. Wilson,* Townesville.
" L. J. Picot,* Littleton.	" E. Nelson Booker, Clayton.
" David N. Sills, Castalia.	" N. S. Siewers, Salem.
" John A. Drake, Battleborough.	" L. G. Hunt, Huntsville.
" W. C. Murphy,* Magnolia.	" Jas. E. Griffith, Clemmons ville.
" W. J. Cooke, Louisburg.	" W. P. Mallett,* Chapel Hill.
" E. J. Thorpe, Rocky Mount.	" H. M. Alford,* Greensborough.
" Joshua Taylor,* Tarborough.	" F. W. Potter, Smithville.
" D. W. Bullock, Tarborough.	" J. F. Harrell, Whiteville.
" W. H. Whitehead, Battleborough.	" W. P. Exum, Wayne County.
" C. W. Eagles, Sparta.	" D. Stuart Lyon, Charlotte.
" R. A. Sills, Nashville.	" A. M. Lee, Clinton.
" R. H. Speight, Tarborough.	" J. R. McClelland,* Mooresville.
" C. E. Moore, Battleborough.	" Peter McLean,* Shoe Heel.
" H. G. Land, Poplar Branch.	" Richard J. Noble, Selma.
" R. J. Grimes, Robersonville.	" Wm. H. H. Cobb, Goldsborough.
" W. C. McDuffie,* Fayetteville.	" J. H. Tucker, Henderson.
" B. W. Robinson, Fayetteville.	" C. G. Bryant, Rich Square.
" P. S. Peteway, Enfield.	" E. H. Hornaday,* Willow Green.
" J. A. McRae, Fayetteville.	" Paul B. Barringer,* Dallas.
" Henry Tull,* Kinston.	" I. Wellington Fason,* Fulton.
" A. V. Budd, Egypt.	" R. K. Gregory,* Greensborough.
" R. R. Robeson, Kyles' Landing.	" John A. Pollock, Kinston.

HONORARY MEMBERS.

Dr. W. T. Howard, Baltimore, Md.	Dr. F. D. Lente, Cold Springs, N. Y.
" Otis F. Manson, Richmond, Va.	" John H. Hill, Goldsborough, N. C.
" R. H. Dillard, Edenton, N. C.	Prof. Lewis A. Sayre, M. D., New York.

OFFICIAL LIST OF CANDIDATES LICENSED BY THE STATE BOARD OF
MEDICAL EXAMINERS.

The Board of Medical Examiners of the State of North Carolina, at its session held in Greensborough, May 19th to May 22d, 1879, examined forty-one applicants for license, of these thirty-six were found duly qualified, and received license to practice medicine in its various branches, as follows :

417 TRANSACTIONS MEDICAL SOCIETY OF NORTH CAROLINA.

- Dr. W. P. Beall, Greensborough.
" Charles M. Glenn, Greensborough.
" S. W. Stevenson, Mooresville.
" W. J. Gilbert, Wayne County.
" D. M. Prince, Laurel Hill, Richmond County.
" H. T. Trantham, Salisbury.
" W. F. Cook, Guilford County.
" C. E. Bradsher, Hurdle's Mills, Person County.
" E. A. Speed, Person County.
" James M. Covington, Rockingham.
" H. W. Lee, Raleigh.
" J. A. Sexton, Raleigh.
" W. L. Abernethy, Hickory, Catawba County.
" Cornelius L. Battle, Rocky Mount.
" J. C. Walton, Caswell County.
" H. F. Burgin, Marion, Buncombe County.
" R. H. Hargrave, Robersonville, Martin County.
" T. E. Anderson, Statesville.
" Hubert Haywood, Raleigh.
" Turner E. Balsley, Greensborough.
" S. B. Jones, Charlotte.
" Edward Lindsay, Greensborough.
" O. P. Robinson, Fayetteville.
" W. P. Mercer, Wilson County.
" J. J. Cox, Guilford County.
" W. R. Hollinsworth, Mt. Airy, Surry County.
" A. D. McDonald, Wilmington.
" J. M. Baker, Tarborough.
" R. A. Freeman, Alamance County.
" J. L. Gunn, Yanceyville, Caswell County.
" C. A. Swindell, Greenville, Pitt County.
" W. G. Stafford, Orange County.
" N. Mc. Johnson, Durham.
" J. T. Winston, Youngsville, Franklin County.
" J. T. Sledge, Middleburg, Warren County.
" B. G. Harris, Guilford County.

Signed, HENRY T. BAHNSON, M. D.,

Secretary Board Med. Examiners of North Carolina.

SALEM, N. C., June 2d, 1879.

The Board of Medical Examiners of the State of North Carolina will hold its next session in Wilmington, on Monday before the 2d Tuesday in May, 1880. The following is the order of examinations :

Surgery.—Dr. P. E. Hines.

Physiology.—Dr. T. D. Haigh.

Practice of Medicine and Pathology.—Dr. R. I. Hicks.

Obstetrics, &c.—Dr. Joseph Graham.

Materia Medica and Therapeutics.—Dr. Thomas F. Wood.

Chemistry and Pharmacy.—Dr. G. L. Kirby.

Anatomy.—Dr. H. T. Bahnson.

HENRY T. BAHNSON,

Secretary Board Med. Examiners of North Carolina.

SALEM, N. C., June 2d, 1879.

MEETING OF ORGANIZATION OF THE NORTH CAROLINA BOARD OF HEALTH.

The North Carolina Board of Health met in the McAdoo house, Greensborough, May 21st, 1879, for the purpose of organizing.

Present : Drs. M. Whitehead, Salisbury ; R. L. Payne, Lexington ; George A. Foote, Warrenton ; S. S. Satchwell, Rocky Point ; C. J. O'Hagan, Greenville ; A. R. Ledoux, Ph. D., Chapel Hill ; Dr. Thomas F. Wood, Wilmington.

Dr. M. Whitehead, was called to the chair.

The ballot for officers resulted as follows : For President, Dr. S. S. Satchwell, received 4 votes, and Dr. M. Whitehead 2 votes.

Dr. Satchwell was declared elected President to serve two years.

For Secretary and Treasurer, Dr. Thomas F. Wood, received 6 votes. Dr. Wood was declared elected Secretary and Treasurer to serve six years.

The following resolution was introduced by Prof. A. R. Ledoux :

Resolved, That the execution of the Board of Health Law be entrusted to the Secretary,—the details of its provision being under his management,—and that the Secretary make his report to the next meeting of the Board. Carried.

410 CONTRIBUTORS AT THE GREENSBOROUGH MEETING.

Upon motion of Professor Ledoux, a committee was appointed to confer with the Department of Agriculture, to make arrangements for the chemical investigations by this Board.

The President appointed Dr. Thomas F. Wood, Dr. George A. Foote, and Prof. A. R. Ledoux.

Names of the members of the North Carolina Board of Health.

S. S. Satchwell, M. D., President, Rocky Point, Pender County.

M. Whitehead, M. D., Salisbury.

C. J. O'Hagan, M. D., Greenville.

R. L. Payne, M. D., Lexington.

Geo. A. Foote, M. D., Warrenton.

Thomas F. Wood, M. D., Secretary, Wilmington.

Prof. A. R. Ledoux, Chemist, Chapel Hill,

Major William Cain, Engineer, Charlotte.

Henry G. Woodfin, M. D., Franklin, Macon County.

Board adjourned to meet in Wilmington, N. C., on the 2d Tuesday in May, 1879.

THOMAS F. WOOD, M. D.;
Secretary.

NOTICE TO CONTRIBUTORS AT THE GREENSBOROUGH
MEETING OF THE MEDICAL SOCIETY.

All papers referred to the Committee on Publication must be sent promptly to Dr. Thomas F. Wood, Wilmington, *in the next thirty days*, or they will be omitted from the Transactions.

New Process for Sulphurous Acid.—M. Pictet, of Geneva, has given a new process for the manufacture on a large scale of sulphurous acid, which consists in pouring sulphuric acid, drop by drop, on sulphur heated to from 572°–662° F.

AMERICAN MEDICAL ASSOCIATION.

THIRTIETH ANNUAL MEETING IN ATLANTA, GA.

AFTERNOON MEETINGS—FIRST DAY.

ATLANTA, May 6th, 1879.

(Concluded from page 357).

SECTIONS 4 AND 5.

The fourth Section of the Association consists of two of the former Sections, namely: that on Medical Jurisprudence, Chemistry and Psychology and that on State Medicine and Hygiene. These two departments were consolidated at the morning session of the Association and the fusion was called Section 4.

The new Section met at 3 o'clock in the room of the President of the Senate. Section called to order by Dr. J. T. Reeve, of Wisconsin, the Secretary, who announced that owing to the temporary illness of Dr. John S. Billings he could not be present. It was, therefore, necessary to appoint a Chairman for the session of the Section for the afternoon.

On motion of Dr. E. L. Griffin, Dr. J. L. Cabell was unanimously elected Chairman.

Dr. A. N. Bell announced that by the vote taken in the American Medical Association in the morning, the two Sections above named had been consolidated. He also announced the death of Dr. Wm. N. Compton, the former Chairman of the Section on Medical Jurisprudence.

Dr. Grissom, of North Carolina, paid an eloquent tribute to the memory and virtues of the deceased doctor who had died a sacrifice to the yellow fever epidemic, in which he had nobly labored for his fellow-men.

The Chairman appointed as a committee to prepare proper resolutions on the death of this esteemed physician, Dr. Grissom, of North Carolina, and Dr. Toner, of Washington City.

The first paper presented to the Section was by Dr. H. A. Johnson, of Illinois. It was on the subject of the regulation of Medical

Practice by State Boards, as exemplified in Illinois. The paper was a full exposition of the thorough reform effected under the provisions of the new law. The thorough acquaintance of Dr. Johnson with the practical workings of this system made his paper of great value as a medical document. The paper was received with the thanks of the Section.

Several of the members of the Section asked questions as to how the present law in Illinois worked.

Dr. Rauch, of Chicago, spoke fully of the success of the present system of regulation in Illinois, and the good it had accomplished to the people generally as well as to the profession in elevating its grade.

Dr. Gihon, of the United States army, believed in the thorough regulation of the practice by the State in such a manner as to prevent quacks from imposing on the public simply because they could show a diploma.

The discussion on the question was protracted, and numerous inquiries were made. But for the brief space we are compelled to allow each Section a most interesting report of the proceedings of this department would be given.

Dr. S. E. Chaillé, of New Orleans, read an exhaustive paper on State Medicine and State Medical Societies which held close attention and created an impression by its logical analysis of the question suggested. The paper was a masterly plea for State Medicine and its systemization as the only means by which the Government could perform its high duties to its people.

Dr. Bell moved that a vote of thanks be returned to the author of the paper. He spoke in very high commendation of it and moved its reference to the general session.

The next paper was a very scientific thesis on psycho-physiological hand, by Dr. E. Seguin, of New York. It was exceedingly interesting and was closely attended by the joint Section. The theory of the paper was that in cases of idiots all education of intellect must begin by education of the senses. He gave a most interesting case of education of an idiot by a Miss Meade in New York.

The Section adjourned to this afternoon at 3 o'clock, when it met in Concordia hall.

THE SIXTH SECTION.

The Ophthalmology Section met in the finance chamber of the Senate at 3 P. M., Dr. H. Knapp, of New York, presiding. In the absence of the Secretary Dr. Scott, of Cleveland, Dr. Calhoun, of Atlanta, was elected Secretary pro. tem. First in the order of business was the election of Dr. E. Williams, of Cincinnati, as Honorary President, and Dr. B. A. Pope, of New York, Vice-President.

The first paper was read by Dr. Williams ; subject, "Ivory Bony Tumor of the Socket of the Eye."

Dr. Voorhees, of Memphis, then read an interesting paper "On a Case of Great Impairment of Sight, Produced by Poisonous Effects of Excessive Doses of Quinine."

The third and fourth papers by Dr. Knapp consisted of microscopic demonstrations and remarks on a large tumor (sarcoma) of the acoustic nerve from the practice of Dr. Stephens, of Albany, New York ; and secondly, of a degeneration of the iris and ciliary body probably of a tubercules and syphilitic nature.

The meeting was concluded by an extensive discussion on the symptoms, the course and treatment of the syphilitic diseases of the cornea. Adjourned to 3 o'clock to-morrow.

SECOND DAY—MORNING SESSION.

ATLANTA, May 7th, 1879.

The Association re-convened at 9½ o'clock to-day, and was called to order by Vice-President Murphy. There was a full attendance in spite of the rain. Communications from the Committee on Arrangements were in order and several announcements were made.

A communication against the abolition of the duty on quinine created some sensation. There were cries of no ! no !

The communication was tabled, and, on motion of Dr. Roberts, of Nashville, the Association reiterated its request that Congress remove the duty from quinine. There were some nays but the ayes had it. The next business was the address of Dr. Thomas F. Rochester, of Buffalo, N. Y., Chairman of the Section on the Practice of Medicine. The paper was a very able and exhaustive

discussion of a subject whose importance cannot well be exaggerated. The author's style was so clear, his research so large, and his thoughts so fresh that the paper he offered will rank among the best of the long list which will come up at this session. Dr. Atkinson, of Philadelphia, moved that the address just read be referred to its appropriate Section of Practical Medicine.

An amendment that portions of the paper referring to typhoid and yellow fevers be referred to the Section on State Medicine was lost.

The original motion was adopted.

An address by Dr. John S. Billings, of Washington, was next in order, but President Parvin stated, with regret, that Dr. Billings was too unwell to read his own paper, but that it would be presented by Dr. J. J. Woodward, of the United States army. The paper was on State Medicine. It was a masterly treatment of a subject whose importance is just beginning to loom before the public. It explained fully the philosophy of the National Board of Health, and as it came from one of its leading members was heard with great interest. The necessity for a national quarantine and its advantages were fully expounded.

The paper was referred to the Section on State Medicine and a copy asked for publication.

Dr. N. S. Davis, of Chicago, made a report from a special committee on questions discussed by President T. G. Richardson in his annual address of last year, which was received. They favored the amendments proposed for the present rules on prize essays. They recommended the expunging from Section 3 all relating to prize essays and to insert a clause declaring that there shall be four prizes of \$250 for the best original contributions to medical knowledge. The Chairmen of the Sections on Practical Medicine, on Obstetrics, and Surgery and Anatomy, on State Medicine, shall take charge of the competition and arrange its methods. The report was to lie over for action until next year under the rule.

It was received and the committee discharged.

The Secretary announced a number of new arrivals since yesterday, as follows :

Georgia--T. O. Powell, Milledgeville; J. R. Humphries, Acworth; George C. Dugas, Augusta; A. W. Griggs, West Point; K. P.

Moore, Forsyth; W. N. Hollifield, Sandersville; Robert C. Eve, Augusta; J. G. Thomas, Savannah.

Tennessee—A. Blitz, John B. W. Nowlin, Nashville.

Mississippi—B. F. Ward, Winona.

Missouri—George Homer, St. Louis.

Alabama—W. W. Bledsoe, Union Springs; George A. Pritchett, Haynesville; Notaulgo; C. H. Fort, Tuskegee; Wm. O. Baldwin, W. C. Jackson, R. F. Michel, W. G. Bibb, Montgomery; J. M. Collier, Troy.

Ohio—Cyrus F. Alconer, Hamilton.

Indiana—James P. Orr, Rushville; J. R. Adams, Petersburg.

Louisiana—J. J. Lyons, New Orleans.

California—R. B. Cole, San Francisco.

Minnesota—S. C. McCormick, Duluth.

North Carolina—J. C. Walker, Wilmington.

Illinois—J. W. Dora, Maltoon.

The next business was the consideration of proposed plans of of change in the plan of organization. The first was an amendment declaring that the Committee on Nominations should hereafter select the nominees only from those members of the Association present.

A motion to table this amendment was made.

The President stated that only delegates were voters. Permanent members and visiting members were not voters. A rising vote was called for. The yeas on the motion to table were 120, and the nays 5. [Laughter].

Dr. H. Hitchcock offered an amendment prescribing the method in which the choice of officers should be made and enlarging the scope of nominating powers of the committee.

Dr. Reynolds, of Louisville, said the amendment applied an imputation on the fairness of the previous methods of the Association, and it was tabled.

An amendment by Dr. Caldwell, of Maryland, to create a new Section, was tabled. An amendment offered by Dr. Maddox to create a new Section on Genital and Urinary Organs was read. A motion to table it was made and a rising vote on it asked. The yeas were 73 and the nays 78. Applause. The amendment then came up for discussion. Dr. Davis said there was danger of

making many sections which would not attract enough attention to make them interesting. But two sections had been consolidated yesterday and he favored the trial of the new section proposed. If it did not work well it could easily be discontinued. He did not like the idea of some men in going about from section to section to try and imbibe all without imparting anything.

Dr. Brown, of Texas, said the Sections had too many long papers, and were not made as interesting or as useful as they might be.

It was moved that the amendment be referred to the Section on Surgery, with request that it report to the Association to-day. Agreed to.

Dr. N. S. Davis, of Chicago, offered an amendment to the Code of Ethics, declaring it to be against the ethics of the profession for any physician to teach or encourage any student of an irregular or exclusive system of medicine.

Dr. E. S. Dunster, of Ann Arbor, spoke in opposition to the amendment. He said he had no personal motive in opposing it or by any desire to shelter himself from the responsibility of any past teaching. He said he wished to remain in the Association, but not even membership would be a fitting price for the abandonment of scientific convictions. He feared the amendment would bring dishonor and disaster on the profession. The Code says medicine is a liberal profession, but this amendment makes it close and exclusive. The whole spirit of the amendment is opposed to the broad principles of true science. He attacked the amendment on various grounds. Said it was impossible to enforce such a statute. It would be a dead-letter law, a reproach to the wisdom of the body that enacted it. A thorough enforcement of this law would close every clinic in the land. In nearly every clinic in large cities are found homœopathic students. He said in the leading homœopathic colleges text books by leading allopaths are freely used. This is teaching the students of an "irregular" system, as it is called, and you can't help it. Legally, the amendment will be futile. If the student of an irregular system, as it is called, were to apply to a State school and be refused, he could obtain a mandamus in any State of this Union to give him an entrance and provide him tuition. What is the use of setting up limitations which cannot be carried out? He argued also on the merits of the question. It is based

on an assumption of a most fallacious character. It assumes that the teaching of the students of irregular systems will tend to build up these systems. This is folly. It declares that the teachings of science leads to error—a proposition which no man in his senses will give his endorsement. Such a principle carried out would prevent a minister of Christ from preaching the gospel when there were atheists or sinners in his congregation. History has to-night nothing plainer than that truth is the antidote and finally the victor of error. The argument was not only masterly in its logic, but was marked throughout by a liberality of view which is the honor of a true scientific man. Said he: "If national medicine cannot triumph in such a contest she deserves to fall and be buried in dishonor." [Applause.]

[The argument of which the above is only an incomplete sketch, gives but a faint idea of this, the most masterly paper of the session.—Eds.]

Dr. Dudley Reynolds moved to lay the amendment on the table, as he said the amendment had been killed.

A member appealed for free discussion on both sides. A voice: "The gentleman who moved to table the motion, only a moment ago, was for free discussion." [Laughter]. The motion to table was withdrawn.

Dr. Davis said he did not wish to discuss the matter, but he would state the reasons which led to the report which proposed the amendment. The Association took steps which made the amendment a necessary result of its action. The judicial council, as a committee, was ordered to report just such a clause. The amendment was the best that could be done. It did not follow that the committee favored the amendment. He said it would be repugnant to him to teach students of an irregular college who merely came in to catch what they could of his teaching. He admitted that there was a line beyond which the Code of Ethics could not be carried without coming in contact with State and municipal laws. Dr. Davis' remarks were sound and fell upon attentive ears.

Dr. Pratt said the argument against the amendment was specious. It was the argument of those who wanted to make money by teaching irregular pupils and be considered ethical, while practitioners are considered non-ethical if they associate with such pupils after they

become practitioners. He moved that the proposed amendment lie on the table until next year.

Dr. Brodie, of Detroit, moved to lay that motion on the table. The vote was taken by rising. The yeas were 72 and the nays 122, so Dr. Brodie's motion was lost. The announcement was received with applause. The motion to table until next year was carried.

The roll of States was called for the purpose of allowing delegations to choose places where they would meet to choose members of nominating committee.

After this was done the Association adjourned until to-morrow morning at 9:30 o'clock.

THE FIRST SECTION.

Practice of Medicine, Materia Medica and Physiology—Dr. Thos. F. Rochester, Buffalo, N. Y., Chairman; Dr. W. C. Glasgow, St. Louis, Missouri, Secretary.

The Section was called to order at 3 o'clock by the Chairman.

The paper of Dr. Denison, of Colorado, the reading of which was postponed from Tuesday's session, was ordered read.

Dr. Denison not being present, Dr. Davis, of Chicago, read the paper. Subject, "Aero-Hygienics of Elevation above the Level of the Sea," with conclusions.

The paper was a very long one, and before Dr. Davis had half finished the reading he was informed by the Chairman that his time was out.

On motion Dr. Davis was allowed time to read the conclusions.

Dr. O'Reiley, of New Orleans moved that the paper be received, and referred to the Committee on Publication.

This motion was objected to by Dr. —, of Mississippi, who said he thought if the paper was secured and referred it would seem that the Association accorded with Dr. Denison's views as expressed in the paper.

Dr. Davis, of Chicago, said he could see no reason why the paper should not be received and referred. That it contained valuable facts that were well worthy of publication, and it should be published.

The motion to refer it to the committee was then passed.

Dr. Denison asked that the Section recommend the signal service bureau to prepare charts to be published with his paper.

On motion of Dr. O'Reiley, of New Orleans, the recommendation was granted.

The paper of Dr. L. D. Bulkley, of New York, "on the use of water in the treatment of diseases," being in order was then presented, and read by Dr. Bulkley in clear and forcible style.

Dr. Hopkins, of Georgia, moved that the paper be received and referred to the Committee on Publication.

The paper was discussed by Dr. Porcher, of Charleston, South Carolina, and Dr. Shoemaker, of Philadelphia. The motion to refer was carried.

The address of Dr. Thomas F. Rochester before the general council was referred to this Section and was here presented to the Section by the Secretary.

Dr. Rochester called Dr. Lester to the chair.

Dr. Hopkins, of Georgia, moved that the address be received and referred to the Committee on Publication.

This brought out quite a discussion, which was engaged in by Dr. Lyon, of New Orleans; Dr. Porcher, of Charleston; Dr. Banks, of Griffin, Ga.; Dr. O'Reily, of New Orleans; Dr. Rochester, of Buffalo, and Dr. Foreman, of the army.

The address of Dr. Rochester was in favor of a national quarantine as a preventative of yellow fever.

Dr. Lyon, of New Orleans, said that the treatment of yellow fever was as well understood as the treatment of any other serious disease. That yellow fever does originate in New Orleans, and that there is never a year that there is not yellow fever in that city that originates there. Dr. Lyon contends that quarantine laws do no good, and as proof he says that during the late war, when there was not and could not be any communication between New Orleans and the West Indies there was not a single year but what there were cases of yellow fever in New Orleans.

He contends that the disease is not contagious, and that it will in future, as it has done in the past, continue to originate in that city. He believes in local sanitary measures instead of the quarantining.

Dr. Hopkins, of Georgia, agreed with Dr. Lyon that yellow fever was of local origin, and that quarantine regulations were useless in preventing the disease.

Dr. Dowell, of Texas, asked Dr. Lyon if quarantine did not keep the fever out of Texas. Dr. Lyon replied that it did not, and asked the gentleman why it did not keep it out of Jackson, Mississippi, which was surrounded by men armed with shot guns.

The question was not answered.

Dr. DeRoaldes, of New Orleans, said that in a large majority of years yellow fever will originate in New Orleans. He believes that proper sanitary measures will prevent epidemics in that city. He does not favor a national quarantine law.

Dr. Rochester said that he had not treated a case of yellow fever in twenty-eight years. That he did not doubt but what there were occasional cases occurring sporadic in New Orleans, but that he believed that the quarantine would prevent the terrible epidemics.

Dr. Foreman, of the army, said that while the fever might originate in New Orleans there were cities where it did not originate, and we needed quarantine against such places as the fever originated in.

The motion to refer the paper was carried.

There being no other business before the Association, it adjourned to meet in the Opera House at 3 o'clock to-morrow afternoon.

The reporter is under obligations to the Secretary for favors shown him.

THE SECOND SECTION.

Section 2—Obstetrics and Diseases of Women, met at 3 P. M. : called to order by the Chairman, Dr. E. S. Lewis.

Minutes of last meeting were read and adopted.

The new gynæcological table devised by Dr. Chadwick, of Boston, was presented by Dr. Marcy, of Massachusetts. The doctor explained the working of the table to the entire satisfaction of all present.

The reading of papers being in order the Chairman read the paper of Dr. E. Cutter, of Massachusetts, (the author being absent), on: "The Treatment of Uterine Displacements by the Stem Pessary."

Next in order was Dr. E. B. Turnipseed, of South Carolina, on: "New Instrument for Operation for Vesico-Vaginal Fistula, with

cases. The instrument when complete embraces the following: new self-retaining speculum; retractors; large apparatus (used in stitching) bearing a smaller comb-shaped apparatus set with needles, which are clamped when the operation is completed. Curved needles, gold triple plated with hard rubber clamps, with springs. Trimmers, dilaters on the principle of changeable valves, and a heysteratome.

On motion of Dr. Albert Smith, of Philadelphia, the thanks and appreciation of the Section were expressed to Dr. Turnipseed for his industry and mechanical genius.

The next paper in order was that of Dr. E. Cutter, of Massachusetts, postponed from last meeting. This paper was read by Dr. Dunster, of Michigan, the subject being the "Electrolysis of Fibroids." This was a highly interesting and very able paper, and, on motion, was referred to the Committee on Publication.

On motion, Dr. Pallen, of New York, presented large drawings of a lacerated perineum, and from these he demonstrated his mode of operating. He also spoke of the operation of amputation of the cervix, or as he proposes to call it, vagino-cervioplasty, for the cure, as we may say in general, sterility. Dr. Pallen is one of the prominent figures in this Section, and at the conclusion of his remarks was greeted with immense applause.

The Chairman appointed as a committee to examine the papers presented to the Section, Drs. Dunster, of Michigan; Smith, of Pennsylvania; and Cross, of Arkansas.

On motion of Dr. Beverly Cole, of California, the Society adjourned until to-morrow at 3 P. M.

THE THIRD SECTION.

Surgery and Anatomy.

Called to order by the Chairman, Dr. Moses Gunn.

Minutes of last meeting were read by the Secretary and were approved.

The reading of papers being next in order, Dr. J. N. Quinby, of New Jersey, read a paper describing a case of conservative surgery.

Dr. Louis A. Sayre, of New York, read a paper "On the proof of the value of the treatment of Spondylitis or Potts' disease by

suspension and retention in the improved position by the plaster-of-Paris bandage." The paper was discussed by Drs. A. C. Post, of New York; H. O. Marcy, of New York; E. H. Dugas, of Augusta, Ga.; Quinby, of New Jersey; Byrd, of Illinois; McGraw, of Michigan. Dr. Sayre concluded it.

Dr. Maddux, of Maryland, moved that the thanks of this Section be tendered Dr. Sayre, which was agreed to.

The paper was very interesting, because it showed what advancement had been made in curing cases that was considered not curable. Dr. Sayre was invited to apply his plaster-of-Paris jacket before this Section to-morrow evening which he has promised to do.

The next paper was read by Dr. J. E. Link, of Indiana, "On Amputations by Open Cone-Shaped Method." The following gentlemen participated in discussing it:

Drs. Beck, of Ohio; H. O. Marcy, of New York; Bird, of Illinois; Quinby, of New York; Garcelon, of Maine; Fuller, of —; concluded by Link, of Indiana.

The next paper was read by Dr. H. F. Campbell, of Augusta, Ga., "On Urinary Calculus, with Consideration of its Hygienic, Etiological, Pathological and Surgical Relation; with 46 cases." It was discussed by Drs. Dawson and Mussey, of Cincinnati, Ohio, and Dowell, of Texas.

The further discussion was postponed until to-morrow evening after the regular business.

Adjourned to meet at 3 o'clock to-morrow evening.

THE FOURTH SECTION.

The fourth Section, consisting of the Sections on Medical Jurisprudence and State Medicine, met at 3 o'clock in the Concordia hall on Marietta street.

Dr. Cabell, of Virginia, who had presided over the meeting of this Section the previous evening, was, on motion, elected Chairman of the Section during Dr. Billings' sickness.

Dr. Grissom, of North Carolina, presented a report from the committee appointed to draw a fitting memorial on the death of Dr. Compton, of Mississippi. The memorial was a beautiful tribute to the memory of the good and gifted man of whom they spoke. The report was signed by Drs. Grissom, Toner and Pratt.

The memorial concluded with resolutions expressive of the regret of the Section at the untimely death of this distinguished Mississippian, and declaring that his memory will be cherished with the virtues of his life presented.

Dr. Taylor, of Kentucky, asked the honor of moving the adoption of the resolutions.

Dr. Browning, of Mississippi, seconded the motion, and the resolutions were adopted.

The first business was that relating to State Medicine. A paper was expected from Dr. J. N. DeHart, of New Jersey, but he was absent.

A paper on "The New Principles of Protective Sanitation in its Relation to Public Hygiene," by Dr. H. R. Storer, of Rhode Island, was next in order. The author was absent, but his paper was read to the Section by Dr. E. S. Dunster, of Ann Arbor, Michigan. It occupied about thirty minutes and held close attention. It was full of historical knowledge and sound suggestions of true sanitary policy.

The paper was referred to Committee on Publication.

A report by Dr. R. J. O'Sullivan, of New York, on intervention of physicians in education was expected by the Section, but the doctor and his paper were both absent.

The consideration of the address of Dr. Billings, Chairman of the Section, who was kept away by sickness, was tabled until tomorrow, when it is hoped Dr. Billings will be well.

Dr. E. Seguin, of New York, made some remarks on the intervention of physicians in education, the subject of which Dr. O'Sullivan had been expected to treat. His views were forcibly put, and were heard with attention by all.

It was moved that Dr. Seguin be requested to commit his remarks to writing for the future consideration of the Section.

Dr. Bell said the more orderly way would be to let Dr. O'Sullivan's paper come up, and Dr. Seguin could then give the Section the benefit of his wisdom. The motion was withdrawn.

The Section took up some resolutions offered by Dr. Billings, that the American Medical Association recommend that every physician aid the Superintendent of the census in his efforts to make up his statistics of mortality. That every physician make a record

of all his cases from the first of June. Every physician in the United States will be furnished with blanks for filling out the reports asked. The resolutions were adopted.

Resolutions on the organization of the profession in all States were read. It was proposed to organize all members of the profession in good standing into County organizations. The Section gave its approval to such a course whenever it may be deemed necessary.

The Section then adjourned to 3 o'clock to-morrow evening.

THE SIXTH SECTION.

The Section on Ophthalmology held two sessions yesterday—from 9 to 11 A. M., and from 3 to 6 P. M., Dr. H. Knapp occupied the chair. The principal object of discussion was "The Operation for Cataract" on which extensive papers were read by Drs. Pope, Calhoun and Knapp. In the discussion about twelve members took an active part. A paper was presented by Dr. Reynolds, of Louisville, "On the Operative Cure of Cystoid Cicatrix." Dr. Smith, of Detroit, read a paper "On the Operative Cure of Xerophthalmia." In conclusion, Dr. Knapp presented two anatomical specimens, the one with plastic cyclitis, the other with a chip of brass lying in the ciliary body and gave a brief history of the cases to which the specimens referred.

The Section adjourned to meet at 9 o'clock to-morrow morning.

THIRD DAY.

ATLANTA, May 8th, 1879.

Promptly at half-past 9 o'clock the Association met in the Opera House, President Parvin in the chair.

The Secretary announced several communications from the Committee on Arrangements relative to the banquet of last night, the excursion to Augusta, and other points of interest to the members.

REPORTS

were next in order and the following were offered :

Dr. N. S. Davis, of Chicago, offered a brief but pointed report on Ozone, which was referred to the Committee on Publication.

The report on Necrology was presented by ex-President J. M. Toner, of Washington, the Chairman of the Committee.

The report on Sanitaria for Consumptives was to have been presented by Dr. H. I. Bowditch, of Boston, but he was absent and the report was postponed.

The report on the Catalogue of the National Library, by Dr. H. C. Wood, of Pennsylvania, was received. It stated that Congress had been induced at last to publish two volumes of the Index Catalogue.

Dr. Woodward, of the army, thanked the Association for the warm support it had given his colleague, Dr. Billings, in his efforts to complete a great and necessary work. The report was referred to the Committee on Publication.

Dr. Atkinson, the Secretary, presented the report of the Committee on Publication, which stated the entire work of that Committee for the past year. The report was received and disposed of as those above.

The Treasurer's report was next read and referred to the Committee on Publication.

The Librarian's report was also read and referred to the same committee.

The next business in order was the presentation of a paper on State Medicine which Dr. Chaillé, of New Orleans, had read in the Section of State Medicine Tuesday afternoon. The paper took such a philosophical view of a great question that the Section ordered it referred to the Association. Dr. Chaillé's views are along with the most advanced theories on this subject. He appealed for the thorough establishment of a sound system of State Medicine, in which the general government should regulate without interfering with any necessary powers of the State. He argued that it lay in the power of the American Medical Association to effect the reforms needed in the present condition of State Medicine. In England State Medicine is easily and judiciously regulated by the influence of the British Medical Association on one central legislative power, while in America this power must be frittered away on the local Legislatures of forty-eight States and Territories. He argued for a more permanent organization in minor Medical Societies and the consequent increased efficacy of the American Medical

Association. His views of the powers of general government over medical matters both as related to sanitary and moral questions were very strong and to some may have appeared radical. The thorough study which Dr. Chaillé has given this question and his known liberality of views on all subjects make it certain that in this paper he does not go to any extreme which prudence would disapprove, nor did he advocate any principle by reasons which are not in sympathy with the general opinion of the most learned and most patriotic men of our day and nation. The paper was pregnant with theoretic principles strengthened by sound practical suggestions. It was really one of the most practical papers of all the long list which will come up at this session, and its reading in the Section started a series of discussions on its propositions which its presentation to the Association will bring into much fuller view. The paper was referred back to the Section where it had been first presented.

The President—The hour has arrived for the address of Dr. Moses Gunn, of Chicago, Chairman of the Section on Surgery and Anatomy.

The doctor delivered an address worthy of his high position in the profession. Though the paper was long it held the closest attention of the entire Association. The paper treated of pus in a most scientific manner. It gave the most advanced theories on the question and discoveries of the true nature of pus in all of its various exhibitions. There were many valuable suggestions in the paper, and they were put with beautiful clearness.

The paper was referred to the Section on Surgery.

NOMINATIONS.

Dr. S. D. Gross, of Philadelphia announced that the Committee on Nominations was ready to report. The following report was then received through the Secretary of the Committee, Dr. Eugene Grissom, of North Carolina.

REPORT ON NOMINATIONS.

The Committee on Nominations presented the following nominations :

President—Dr. Lewis A. Sayre, of New York.

Vice-Presidents—

First—Dr. R. Beverly Cole, of California.

Second—Dr. E. M. Hunt, of New Jersey.

Third—Dr. H. O. Marcy, of Massachusetts.

Fourth—Dr. F. Peyre Porcher, of South Carolina.

Treasurer—Dr. R. J. Dunglinson, of Pennsylvania.

Librarian—Dr. William Lee, of District of Columbia.

Committee on Library—Dr. Johnson Eliot, of District of Columbia.

Assistant Secretary—Dr. Walter Gillette, of New York.

Next place of meeting—New York.

Time of meeting—Not yet fixed.

Committee of Arrangements—Drs. S. O. Vanderpoel, Stephen Smith, William M. Polk, Robert Weir, Charles I. Pardee, A. A. Smith, T. F. Sabine, of New York; Joseph Hutchison, of Brooklyn; M. H. Burton, of Troy; and Parker, of Poughkeepsie.

Committee on Prize Essays—Not yet appointed.

Committee on Publication—Drs. W. R. Atkinson, T. M. Dugdale, A. Fricke, S. D. Gross, Caspar Wisar, R. J. Dunglinson, of Pennsylvania; and William Lee, of District of Columbia.

The following nominations for Chairmen and Secretaries of Sections of 1880 are reported:

First—Practice of Medicine, etc—Dr. J. S. Lynch, of Maryland, Chairman; Dr. W. C. Glasgow, of Missouri, Secretary.

Second—Obstetrics, etc—Dr. Albert Smith, of Pennsylvania, Chairman; Dr. Robert Battey, of Georgia, Secretary.

Third—Surgery and Anatomy—Dr. W. T. Briggs, of Tennessee, Chairman; Dr. J. Powell Adams, of Minnesota, Secretary.

Fourth—State Medicine, Medical Jurisprudence, etc—Dr. Jas. F. Hibberd, of Indiana, Chairman; Dr. Thomas F. Wood, of North Carolina, Secretary.

Fifth—Ophthalmology, etc—Dr. Bolling A. Pope, of Louisiana, Chairman; Dr. Eugene Smith, of Michigan, Secretary.

Committee on Necrology—Dr. J. M. Toner, of District of Columbia, Chairman; Drs. B. F. Mitchell, of Alabama; J. P. Wall, of Florida; F. W. Hatch, of California; J. B. Cummings, of Arkansas; C. Denison, of Colorado; G. W. Russell, of Connecticut; J. H. Richards, of Delaware; T. S. Hopkins, of Georgia; J. H. Hollister, of Illinois; G. L. Sutton, of Indiana; H. B. Ransom, of Iowa; C. V. Mottrom, of Kansas; Dudley S. Reynolds, of

Kentucky; E. A. Lewis, of Louisiana; E. F. Sanger, of Maine; John Morrison, of Maryland; L. F. Warner, of Massachusetts; G. E. Barney, of Michigan; D. W. Hand, of Minnesota; John Browning, of Mississippi; J. M. Richmond, of Missouri; J. R. Black, of Nebraska; L. S. Hill, of New Hampshire; H. D. Didama, of New York; John Blaine, of New Jersey; E. J. Haywood, Jr., of North Carolina; Starling Loving, of Ohio; Frank Woodbury, of Pennsylvania; C. H. Fisher, of Rhode Island; Manning Simmons, of South Carolina; J. B. Lindsay, of Tennessee; H. W. Brown, of Texas; O. F. Fassett, of Vermont; L. J. Joynes, of Virginia; R. W. Hazlett, of West Virginia; J. T. Reeve, of Wisconsin; J. J. Woodward, of United States Army; A. L. Guion, of United States Army.

A further report will be made later.

On motion, the report was received and the nominations were endorsed.

The next business was the reading of an address by Dr. E. F. Lewis, of New Orleans, Chairman of the Section on Obstetrics, etc. It was referred to Committee on Publication.

The next business was the consideration of Dr. Seguin's report on the Metric System. The doctor made a few remarks in support of his resolution. They are as follows:

1. That the American Medical Association adopts the International Metric System, and will use it in its transactions.

2. Requests that those who present papers at its future meetings employ this system in its communications or reprints thereof.

3. Requests the Medical Boards of the Hospitals and Dispensaries to adopt the metric system in prescribing and recording cases; and that the faculties of the Medical and Pharmaceutical schools adopt it in their didactic, clinical or dispensing departments.

4. Requests the physicians familiar with the metric system to help their confrères and the druggists in its application; and the delegates present at this session to work up the acceptance of the metric system by their respective County and State Societies.

5. Requests our President to name a Metric Executive Committee, of which he shall be the ex-officio Chairman, and whose task will be to give unity and rapidity to this metric movement.

On motion they were adopted.

Dr. Chaillé, of New Orleans, offered a resolution that Congress be petitioned to allow any student of scientific pursuits to import free of duty any one book for his own use. Adopted.

Dr. Brodie, of Detroit, referred to judicial council a query as to the propriety of the use of patent medicines, and a resolution declaring such use against the Code of Ethics.

Some amendments were laid over until next year.

Association adjourned until to-morrow morning, 9 o'clock.

FOURTH DAY.

ATLANTA, May 9th, 1879.

The Association met at 9:30 A. M., and was called to order by President Parvin.

Communications from the Committee of Arrangements were read.

Reports from all the five Sections were read.

A resolution passed by the Section on State Medicine, looking to the thorough organization of State Societies, and prescribing stricter rules for admission into the American Medical Association, was passed.

A communication from the California Medical Association, pressing the necessity of a national quarantine, was read and referred.

The President appointed the following committees :

To represent the Association abroad—Drs. Seguin, Yandell, Da Costa, Gunn, Turnbull, Warren, and J. T. Hodgson.

Delegates to Canadian Association—Dr. H. Hutchins, Dr. W. Brodie.

On Dr. Chaillé's resolution on Public Hygiene and its regulation by Congress—Drs. Pratt, Davis, Garcelon, Gross and Bell.

The Committee on Nominations reported their work complete, and presented the following report :—

Time of meeting—First Tuesday in June, 1880. Place—New York.

Committee on Prize Essays—Drs. Austin Flint, Chairman ; Alfred C. Post, Joseph Hutchinson, J. W. S. Gouley, Montrose H. Pallen.

Members of Section on State Medicine, Public Hygiene, etc.—Drs. W. H. Hawkins, Arkansas ; Jerome Cochrane, Alabama ; W.

F. Cherry, California ; C. Dennison, Colorado ; C. A. Lindley, Connecticut ; Wm. Marshall, Delaware ; Thomas Antisell, District of Columbia ; J. P. Wall, Florida ; J. P. Logan, Georgia ; S. Brandeis, Kentucky ; S. E. Chaillé, Louisiana ; A. P. Snow, Maine ; T. B. Evans, Maryland ; H. I. Bowditch, Massachusetts ; H. B. Baker, Michigan ; C. N. Hewitt, Minnesota ; Wirt Johnston, Mississippi ; H. H. Mudd, Missouri ; J. Black, Nebraska ; G. P. Conn, New Hampshire ; D. O. English, New Jersey, A. N. Bell, New York ; J. C. Walker, North Carolina ; J. C. Reeve, Ohio ; H. Carpenter, Oregon ; Benjamin Lee, Pennsylvania ; E. M. Snow, Rhode Island ; R. A. Kinlock, South Carolina ; T. A. Achison, Tennessee ; H. W. Brown, Texas ; F. D. Cunningham, Virginia ; L. C. Butler, Vermont ; E. A. Hildreth, West Virginia ; J. T. Reeve, Wisconsin ; Joseph R. Smith, United States army.

The Committee also reported regulations for printing the proceedings of the Association and the deposit of its funds.

The address of Dr. Hermann Knapp, of New York, the Chairman of the Committee on Ophthalmology, was next in order. The address was referred to the Committee on Publication.

The Committee on Prize Essays reported only one essay for a prize. This was written by Dr. A. McLane Hamilton, of New York, and was on the subject of Primary and Secondary (local) Degeneration of the Lateral Columns of the Spinal Cord. The Committee highly commend the essay, and recommend that a prize of \$100 be awarded for it. An essay on "Explorations in Physiology" was highly commended, but the second prize was withheld.

Dr. N. S. Davis, of Chicago, said it gave him peculiar pleasure to offer one resolution. He then read a resolution of thanks.

The resolution was adopted by a unanimous rising vote of the Association.

The last business in order was the installment of the new officers.

Dr. Louis A. Sayre, of New York, the President elect, came forward, and Dr. Theophilus Parvin, of Indianapolis, the retiring President, addressed the body in a few well chosen words. He was followed by Dr. Sayre, and the meeting then adjourned.

REVIEWS AND BOOK NOTICES.

POTTS' DISEASE, ITS PATHOLOGY AND MECHANICAL TREATMENT, etc. By NEWTON M. SHAFFER, M. D., Surgeon in charge of the New York Orthopædic Dispensary. 12mo. Pp. 82. G. P. Putnam's Sons. 1879.

This is the substance of a paper by the author, read before the Medical Society of the County of New York.

It gives clearly and dispassionately, the views of one of the younger authorities in orthopædics.

He opposes the exclusive use of the plaster jacket, believing it to be applicable to diseases in the lower dorsal and upper lumbar vertebræ only, and in every respect inferior to the "antero-posterior support." He makes the following astonishing statement which is hardly complimentary to those to whom it refers: "Among the other teachers of general or orthopædic surgery in our colleges I have not succeeded in finding one who gives a systematic course of instruction upon the various complex mechanical indications to be met in the treatment of this insidiously progressive lesion."

He claims priority in teaching that reflex muscular spasm in chronic joint diseases always indicates osteitis," and that this spasm is due to pathological causes and is not conservative.

It is difficult to apply this theory in explanation of the common deformity of spondylitis, however in harmony it may be with the condition of those joints in which the spasm simulates fibrous ankylosis: for reflex spasm of the erectores spinæ and other spinal muscles, it would seem, would tend to produce lordosis rather than those posterior curves, which characterize Potts' disease—particularly when the lower dorsal and lumbar bones are the seat of the osteitis.

No one instructed in this disease can afford to be without Dr. Shaffer's book, for in it he has shown himself a complete master of the subject, and his able and impartial analysis of many of its vexed questions may cause some of us to ask ourselves whether an enthusiastic advocacy of other methods of treatment rather than their actual merit may not have led us to their adoption.

In literary execution, Dr. S's. work is in the main very good, but we notice a misuse of several words, such as *traumatism* for *wound*

or *mechanical injury ultimates* for *gives rise* to, etc. ; and there are one or two obscure passages which are real blemishes. Thus in speaking of the simplicity of his mode of treatment he writes :

“ A country practitioner, with a village blacksmith (though this is not necessary) could treat any case successfully with a few practical hints, which would be materially strengthened, of course, by a clinical demonstration.”

We are glad to believe that few cases of Potts' disease present a more marked deformity than does this sentence ; and we trust that in a second edition (which will certainly be called for) Dr. S. will show that his ability to “straighten things up” applies as well to his writings as to his patients.

A GUIDE TO THERAPEUTICS AND MATERIA MEDICA. By ROBERT FARQUHARSON, M. D. Second American edition revised by the author. Enlarged and adapted to the U. S. P., by FRANK WOODBURY, M. D. \$2.00. H. C. Lea. Philadelphia.

If there is any book on a medical subject more useful to the general practitioner than this one we have yet to learn of it. In our opinion, the student who has possessed himself of its contents is competent to enter upon the practice of his profession ; and the busy practitioner who keeps it close at hand may feel that in it he has a trustworthy and ready friend and guide to follow. The general arrangement is admirable, and everything useless or of doubtful value is omitted or receives a bare notice ; while those drugs which are thoroughly treated of their physiological and therapeutic actions conveniently displayed in parallel columns.

We shall not pretend to analyze the work, its full merits can only be made known by a personal examination. We particularly advise a study of the unanswered questions given (page 447 et seq.) for the consideration of the student,” they are eminently suggestive. Dr. Woodbury has greatly added to the value of the book for American students, and in such an elegant, and skilful, and withal modest manner, that our interest in him and his own forthcoming Handbook of Practice is much enhanced.

EPITOME OF SKIN DISEASES, with Formulæ, etc. By TILBURY FOX, M. D. H. C. Lea. 1879. \$1.38.

A condensed and clear summary which ought to do much towards

simplifying the terminology and settling disputed points in this branch of medicine. The chapters on "Modes of Observing Skin Diseases," "General Treatment," "Cutaneous Pharmacopœia," etc., will prove great help to the general practitioner in his studies in dermatology.

A TREATISE ON THE DISEASES OF INFANCY AND CHILDREN. By J. LEWIS SMITH, M. D. Fourth Edition thoroughly revised. Pp. 758. H. C. Lea. 1879. Cloth \$4.50. Leather \$5.50.

Nine-tenths of the profession in America already draw their information upon Disease of Children from Dr. Smith's work. There is nothing to criticise adversely in it; like good wine it needs no praise; it is too extended to permit of anything like a recapitulation of its contents; and we feel that our duty towards our readers is best fulfilled by limiting our notice of the book to the simple mention that a new edition has appeared, revised and enlarged in many points; and containing the newest truths and doctrines in etiology, pathology and treatment.

ON DISEASES OF THE ABDOMEN, etc. By S. O. HABERSHON, M. D. H. C. Lea. Philadelphia. 1879.

A new edition (the second American from the third English) of this standard work has just appeared. Its enlargement and revision and its value is much increased, and it is entitled to remain where it already is as the leading authority on abdominal affections.

DISEASES OF THE THROAT AND NASAL CAVITIES. By CARL SEILER, M. D., etc. 12mo. Pp. 116. H. C. Lea. Philadelphia.

A convenient little handbook, clear, concise and accurate in its method, and admirably fulfilling its purpose of bringing the subject of which it treats within the comprehension of the general practitioner.

We regret to learn of the death of Dr. John T. Darby, Professor of Surgery in the University of New York. Dr. Darby was from South Carolina, and enjoyed a wide reputation before being called to the professorship in New York.

YOUR EARNEST ATTENTION IS ASKED

To the plan proposed by General Francis A. Walker, Superintendent of Census, for obtaining *vital statistics* for the year beginning June 1st, 1879, and ending May 31st, 1880. This plan was adopted at the suggestion of Dr. J. S. Billings, and was warmly endorsed by the American Medical Association at its late meeting in Atlanta.

A copy of a blank book is sent to every doctor in the United States whose name can be learned by the Superintendent of the Census; and it is earnestly urged upon physicians receiving these books to keep the record carefully and to comply with the printed directions found in the book.

To North Carolina doctors this will be all the easier to do, as similar work will be done by the County Boards of Health.'

We regard this as a great opportunity to inaugurate a most useful work:

 CORRECTION.

Members not present or dead, but marked present.

R. B. Haywood, J. J. Summerell, J. A. Gibson, (dead) W. A. B. Norcom, J. W. Jones, C. W. Knight, William Little, J. H. Hicks, H. Otis Hyatt, J. L. Knight, S. B. Flowers, J. M. Hadley, Josh. W. Vick.

CHAS. DUFFY, JR., M. D.,
President Med. Society North Carolina.

L. J. PICÖT, M. D.,
Secretary Med. Society of North Carolina.

The ceremonies of the unveiling of the monument to Dr. Ephraim McDowell, at Danville, Kentucky, in May, attracted a number of the most eminent men in the profession, and was a deserved honor to Dr. McDowell's memory.

OBITUARY.

W. W. WARD, M. D.

Dr. W. W. Ward, of Plymouth, N. C., died May 9th, after a confinement of near six months to his bed from organic disease of the liver; aged 62 years; has practiced medicine thirty-seven years. He was considered by the profession as one of the best therapeutist of eastern Carolina.

L. M. P.

We have known Dr. Ward for many years and our knowledge of him has been that which called from us not only respect for his abilities as a natural born physician; but also our admiration for his success in certain phases of medical practice. The fact was patent to everybody who paid any attention to the character and capabilities of a fellow-citizen, that he used every power he possessed to strengthen his mind to its utmost bent in the amelioration of others. He was heroic in practice, and whatever his hand touched was sure to yield him a reward in some way, and generally to the benefit of his patient.

He suffered from deafness for many years, but nothing daunted by this disease. He labored along the lines of his profession—striving in his own way—to help the sick and needy.

He toiled and suffered in behalf of others until his time came to lay down his armor. Then having served in his day and generation manfully, he went to his reward—the reward of earnest diligence and active benevolence. When the day shall come, which is to come to us all, he will receive from the Great Physician the crown of eternal life.

G. P.

TO OUR READERS.

WEAKLY AND SICKLY PERSONS.

Many persons who are weak and sickly at this season of the year are at a loss to know what will restore their health. It has lately been found by experience that the use of Speer's Port Grape Wine is one of the best restoratives known. Physicians, clergymen and temperance advocates should encourage the use of Port Grape and thus aid the cause of temperance and moderation. It is especially recommended to families for its purity, exquisite flavor and healthy properties. Medical men certify to its valuable medicinal powers. Mr. Speer has been for years engaged in the raising of grapes and

perfecting this wine, and it requires a four years process before it is fit for market.—*N. Y. Baptist.*

Our druggists have procured some direct from the Vineyards. It is excellent for females, especially for those with nursing infants. Salesroom 34 Warren street, N. Y.

BOOKS AND PAMPHLETS RECEIVED.

Report of the Director of the Bureau of Medical Service. International Exhibition, 1877.

Address on State Medicine and Medical Organizations. By Stanford E. Chaillé, M. D., New Orleans.

Normal Position and Movements of the Unimpregnated Uterus. By Ely Van de Warker, M. D., Syracuse, N. Y.

Further contributions to the Treatment of Lupus. By Henry G. Piffard, M. D. Reprint from Medical Record, 1879.

Inversion of the Uterus. By H. P. C. Wilson, M. D. Pp. 11. From the Author. Reprint from N. Y. Med. Jour., 1879.

The Hand as a Curette in Post-Partum Hemorrhage. By Same Author. Reprint from Gynæcological Transactions, 1879.

Hearing and How to Preserve it. American Health Primer, Vol. I. Price 50 cents. Lindsay & Blakiston, 25 South 6th street. Philadelphia, Pa.

Long Life and How to Reach It. American Health Primer, Vol. 2.

Impotency in Women. By Ely Van DeWarker, M. D., Syracuse, N. Y. Reprint from American Journal Obstetrics, January, 1879.

The Pendulum Leverage of the Obstetric Forceps. By Albert H. Smith, M. D., Philadelphia. Reprint from Vol. III Gynæcological Transactions, 1879. Pp. 26.

Bibliotheca Dermatologica. Catalogue of Cutaneous Literature in the Library of Henry G. Piffard, M. D. Professor Dermatology in the University of New York. 1879. Pp. 37.

Minutes of the Meeting of Organization and Proceedings of the Sanitary Council of the Mississippi Valley. Memphis, April 30th and May 1st. Atlanta, May 5th to 9th. Chicago, Ill.

Posological Table. Including all the Official and the Most Frequently Employed Unofficial Preparations. By Charles Rice, Chemist, &c. New York. Wm. Wood & Co. 1879.

Quarantine: Its Sanitary and Political Aspect in Relation to the Spread of Epidemic Diseases. By J. C. LeHardy, M. D., of Savannah. From the Transactions of the Med. Society of Georgia.

NORTH CAROLINA MEDICAL JOURNAL.

M. J. DeROSSET, M. D.,
THOMAS F. WOOD, M. D., } Editors.

Number 1. Wilmington, July, 1879. Vol. 4.

ORIGINAL COMMUNICATIONS.

THE CONDITIONS ESSENTIAL TO THE PROPAGATION AND SPREAD OF THE INFECTIOUS DISEASES.

Address delivered before the Medical Society of North Carolina,
at Greensborough, N. C., May 23, 1879, by the retiring President

CHARLES DUFFY, JR., M. D., Newbern, N. C.

Gentlemen of the Medical Society of North Carolina :

In selecting as the subject of my address on this occasion, "The Conditions Essential to the Propagation and Spread of the Infectious Diseases ;" I am actuated by a sense of the vast importance of the subject not only to ourselves, but to humanity at large: important to ourselves, because of the disappointment and failure that attend our efforts to check and subdue these diseases ; important to humanity, because of the immense rôle they play in the cause of suffering and misery and in the destruction of human life. A few years service in the medical walks of life is sufficient to convince the most sanguine, of our utter weakness in the presence of almost all of these diseases ; we know they defy us, and we soon become to accept

the conviction of most of our intelligent confrères, that it is folly for us to try to cure them, that we may even do more harm to our patient in the attempt to cure, than we do good. How many vaunted remedies in the last few years have we proved worthless in diphtheria, in yellow fever, until now we regard it as an insult for an educated man to ask us to believe he can fabricate a potion or a pill that can quell the storm set up in the organism by the germs of these diseases !

Checked then, on the very threshold of our attempt to cure, it is high time we should change our line of action in regard to these diseases, and that line from my standpoint, should be made to lead in the direction of preventive medicine.

The time has seemed to come at last, when it is no longer necessary that we should importune our law-makers to enact laws to protect themselves and their constituents from pestilential scourges.

A voice of awful impressiveness has spoken and the nation has awaked from its fatal slumber. Health measures have already been inaugurated at the National Capitol, and let us hope they will be commensurate with the requirements of the occasion. In the successful issue of these measures every true physician must be deeply interested, and it behooves him to this end to give his unremitting aid and effort. With the purpose of invoking this aid and effort, I submit these remarks.

Perhaps the most important step in this departure and one destined to influence it in no small degree, was the promulgation of the theory, "That the matter which produces epidemic diseases, comes always from a parent stock." This theory seems of late years to have become the growing conviction of almost all scientific minds, in fact, it is well nigh become to be the established belief, that a specific disease must of necessity have for its origination a specific principle (germ). This principle, though we may be incapable of demonstrating it and able to recognize it only in its outward manifestations, is doubtless, nevertheless, invested with some of the properties of life ; those which most nearly concern us being the properties of growth and self propagation.

Now, if these germs are living entities and capable of originating certain diseases, it follows that the essence of the developed disease is the developed or perfected organism, the result of the germ ; otherwise, no perfected organism, no subsequent germ ; therefore the

face of such organisms together with the diseases they produce would die out. Granted, these propositions, and we have the following formula: Given the living specific germ and the necessary conditions of its development; the resultant is, the developed specific disease.

Before proceeding further, I desire it to be understood that these remarks refer specially to the contagious and miasmatic contagious divisions of the infectious diseases after Liebermeister's definition, and further, that it is not my purpose to refer to each and all of them, but simply to use enough of the accumulative facts in regard to them, to answer my purpose in elucidating the subject before us.

First as to Germs:—That they vary materially as to characteristics and attributes must be apparent to every one. Every farmer knows the difficulty of preserving his seed potatoes for a longer period than one year, his cotton seed for a longer period than three years, while corn and other grain may be kept sound for a much longer period of time. A grain of wheat is said to have germinated after being kept in the hand of an Egyptian mummy for one thousand years. The seeds of noxious weeds will preserve themselves without any one's care against all manner of vicissitudes and spring up vigorously when the conditions favorable for their germination and growth present themselves. Again some plants furnish very much larger quantities of germs than others, and on this account have a very material advantage in the struggle of life. And so it must be with the germs of disease, some being capable of enduring much greater vicissitudes and some able to retain their vitality a much longer time than others. Biologists tell us they always come from a parent organism, that they are possessed of "long enduring dormant vitality" in contrast with the fleeting vitality of the perfected organism; that they are capable of enduring very low and very high degrees of temperature and that they are possessed of that singular attribute known as "variation" or "sporting" whereby one disease may be the sport from another as diphtheria from scarlet fever, and it does not seem unreasonable to assume they may be capable of hybridizing, very many familiar instances of which present themselves not only in the animal but in the vegetable kingdom. But germs of themselves, notwithstanding this array of troublesome attributes, are innocuous, and would remain dormant forever, if perpetually

4 PROPAGATION AND SPREAD OF INFECTIOUS DISEASES.

divorced from their developing conditions which we will now briefly consider. These we may divide into two groups, viz. : the one pertaining to the contagious diseases, the other pertaining to the miasmatic contagious diseases.

In the first group we have the "bed" for germination and development of infective principle, (which for want of a better term we will call *individual susceptibility*) and the means of contact or communication, whereby the germs gain access to, or become planted in the bed. The other group comprises together with the conditions assigned to the first group, those extraneous or outside conditions embraced in the term "miasmatic," which are so numerous and in many instances so remote from apprehension as to preclude them from more than a mere suggestion as to their nature. But difficult as they are of being apprehended—as, for instance, those which perfect the diphtheria germ—they are none the less important, whether considered with reference to the part they play in the propagation of disease, or to the light, the study of them promises to throw on State Medicine. In illustration, let us take the yellow fever germ and bring it in the presence of the unprotected subject: here we have germ, susceptibility, and medium of impact, competent conditions in the production of the directly contagious diseases; but these alone seem insufficient in the case of yellow fever. They (the germs of yellow fever) must fall within a certain altitudinal limit, within a certain degree of temperature, in a certain density of population and probably within a certain degree of humidity, in order to "bear fruit an hundred fold." Again typhoid fever and diphtheria seem not to be influenced in their spread by any one of these outside conditions; they invade alike the crowded city and the sparsely settled country district, the mountain top and sea level. Sometimes prevailing in winter, sometimes in summer; at the same time they violate the most important laws of the directly contagious diseases, frequently attacking a single individual of a large number seemingly exposed and at other times arising as though spontaneously, in some out of the way place where it would seem there had been no possibility of importation of their germs. These inconsistencies perplexing as they appear are not altogether beyond the pale of reconciliation and will be referred to again presently.

We now approach an exceedingly interesting part of our subject,

but one beset with difficulties on every side. We turn again to germs, and inquire, 1st. At what stage of their development do they acquire the quality of being infectious? The rational answer to this question would seem to be, about the time of the subsidence of the disease that furnishes the germ, as it would seem probable that germs of whatever nature, for the most part, only acquire the quality of the reproductiveness after the subsidence of the process upon which their existence depends. But there are probably exceptions to this rule, as according to Niemeyer "measles is most infectious in the stage of eruption," and probably somewhat so even in the prodromal stage. Hydenreich's experiments with the blood of relapsing fever patients show that the blood is only infective during the paroxysm. The infection of small pox becomes active about the time the contents of the vesicles "begin to turn cloudy," but it is hardly probable the germs at this stage are migratory, the point of chief interest from the prophylactic side of the question. There are, no doubt, many other exceptions to this rule, which observation, may ere long find out and turn to useful account in our dealings with these disorders. 2d. How long do germs retain their power of self-propagation, when subjected to ordinary climatic vicissitudes, or in other words, how long a time should elapse after the subsidence of an epidemic, before it would be safe for unprotected persons to reside in such infected locality? Future observations must decide this question in regard to most of the infectious diseases. The yellow fever germ in our climate continues active until subjected to a temperature below 32° F. Koch in his splendid researches on the pathology of splenic fever found that the rods or perfected organisms of the bacillus anthracis "had only a comparative fugitive vitality; they lost their infective power generally in a few days, at the most, in about five weeks. But the spores retained their infective activity for an indefinite period in spite of all kinds of maltreatment. They could be reduced to dust, wetted and dried repeatedly, kept in putrefying liquids for weeks and yet at the end of four hours they still displayed an undiminished virulence." The germs of most of the eruptive fevers, although not influenced by ordinary variations of atmospheric temperature seem incapable of enduring outside exposure for any great length of time, probably a few weeks is sufficient to deprive them of their virility, while the infective principle of typhoid fever and diphtheria often

retain their latent vitality for a great length of time. For example, an unprotected person returning to a locality in which small-pox had been epidemic, but which had subsided a few weeks before, is not in much danger of contracting the disease, provided he is careful to avoid such places and things as afford protection or shelter to the germs. Whereas, typhoid fever and diphtheria once gaining foothold in a community may continue indefinitely liable to infect the inhabitants though the outbreaks be at very considerable intervals of time. 3d. What are the favoring conditions for the preservation or prolongation of the activity of germs? To begin, we find protective material in abundance about the apartments of the patient; his clothing from hat to boots, his boxes, trunks, drawers, books, toys, carpets, wall-paper, etc. It is well known that the clothing of a small pox patient may be put into a box from which air or moisture are excluded, and the germs contained therein preserved in all their virulence for years. A crust of vaccine virus sealed in a flask from which septic bacteria are excluded will retain its power of communicating cow-pox almost indefinitely, whereas, when exposed to the atmosphere, and particularly a moist atmosphere it will lose this power in a few days or weeks. In scarlet fever it is probable the shedding epithelium is preservative and in some diseases as typhoid fever, epidemic dysentery, cholera, yellow fever, the dejecta, vomited matters, etc. Water is probably protective to the infective matters of typhoid fever and by many is believed to be the principal carrier of the contagion. An interesting account of an epidemic of typhoid fever published some years ago in the London *Lancet* traced its origin to a pasture that had been manured with sewer products. The milch cows supplying a certain dairy were grazed on this pasture, from this dairy it was found all the fever patients had used the milk, while persons living in the same district who did not use it escaped the disease.

Dr. Folsom, (State Board of Health, Massachusetts, 1876,) quoting Dr. Mapother, of Dublin, says: "Forty cases of typhoid fever occurred in a hospital which received its water supply from a river. The cause was traced to some barracks twenty-five miles higher up, from which typhoidal dejections had been emptied through drains into the river." The protective influence of sewerage has been well demonstrated by the English Rivers Pollution

Commission, which reports after careful and ingenious experimental investigation, "It is thus evident that so far from sewage mixed with twenty times its volume of water being oxydized during a flow of ten or twelve miles (as taught by Dr. Letheby) scarcely two-thirds of it would be so destroyed in a flow of one hundred and sixty-eight miles at the rate of one mile per hour or after the lapse of a week." But the conditions, par excellence, for the preservation of the dormant vitality of germs are to be found in our manner of disposing of the bodies of those who have died of infectious diseases. During the lifetime of the patient, we may have been assiduous in our employment of disinfectants and parasitocides, we may have kept the atmosphere of his room in such condition that it was impossible for infective matter to have retained its virulence for one hour, but what do we do with his body after death? Teeming with myriads of germs we consign it to mother earth from which we get all our food and drink and through which circulates, according to Pettenkofer, a large proportion of the air we breathe. In the language of the farmer we "house" these germs carefully protecting them by means of metallic cases, etc., from the natural agents of their destruction. Thus entrenched, they are secure to go forth, when the occasion offers, on their mission of death and dismay. When this death dealing influence may subside no man can tell. "The plague is said to have broken out afresh after a hundred years in consequence of the re-opening of a plague pit," and who would venture to deny that the germs of yellow fever, of typhoid fever, of diphtheria, and others, may be capable of retaining, when thus protected, their disease-producing characteristics for years and years, ready, when no man is suspecting, to spring into terrible virulence upon presentation of their necessary conditions! In the *Fragments of Science*, Professor Tyndall reminds us that Dr. Starr, of Liskeard, about the year 1758 described diphtheria under the name of morbus strangulatorius "as then severely epidemic in Cornwall. This fact is the more interesting, as diphtheria in its more modern re-appearance again showed predilection for that remote country."

We are now ready, it seems to me, with the explanation of the apparent inconsistency of the doctrine, that a disease, whose origin must be invariably from a germ furnished by a parent organism,

may originate, nevertheless, without the necessity of importation. When I say importation, I wish to be understood to apply the word in the sense it is generally used in this connection, and to imply that the source from which importation is effected, is traceable. For my purpose we require germs capable of retaining for a long time their vitality in a dormant state, and such protection as would appear to be afforded them by the burying process. It is no great stretch of the imagination to see, so to speak, the ultramicroscopic germ, which may have been buried by a preceding generation, lashed by the passing current of air or water—one or other of which is in constant circulation round about it—until teased from its moorings, it floats out on the tide, and conveyed by means of the air we breathe or the water we drink or the food we eat, it lodges in the lungs or stomach of the susceptible individual, from whence it gains access to the blood, there to enter upon the mysterious processes of incubation, maturation, etc., which end at last in those manifestations which are to declare the spontaneous outbreak of an epidemic disease.

If we can accept this explanation there is no longer any reason for surprise at so-called spontaneous outbreaks of contagious diseases. The expression may be construed to imply that germs long dormant, perhaps, furnished by past generations, have worked their way through opposing media and joined the conditions necessary to the development of their power of self multiplication and reproduction, and hence the resultant disease.

The law of variation or sporting may also have a share in this explanation. My friend, Dr. W. R. Wilson, some time ago related to me an instance that came under his observation which is singularly suggestive: The father of a family left home a few days after the confinement of the mother—father, mother and all in good health. Three or four days after leaving home, during which time he was traveling through the country, he was seized with a severe erysipelas from which he barely escaped with his life. During the first week of his illness he received intelligence of the death of his wife from puerperal fever. Within three weeks from the time of this gentleman's seizure and at the house where he was confined, three cases of diphtheria occurred. Dr. Wilson believes that all these cases originated from the same source of infection.

In disarrangement of susceptibility and in disarrangement of extraneous conditions, may be found the explanation of the difficulty of understanding why these diseases may attack a single individual of a large community exposed. Extraneous conditions, like susceptibility, may be exhausted in some instances and consequently necessitate a break in the spread of the disease until they can be renewed.

Our study of susceptibility brings us in the presence of some very remarkable facts which bear on the subject under consideration. Dr. Roberts says: "There is nothing in all nature more wonderful than the intricate and subtle nexus which unites a parasite to its host. A hundred examples might be given. Even different varieties or races of the same species have different and exclusive parasites. It would seem as if nexus depended on some delicate shade—a *nuance*—something like an odor or savor, or a color rather than on differences of structure or chemical composition. The same minute correlation is seen in specific contagia, all are strictly confined to one or a few species. Vaccinia is confined to man, the horse and the cow; scarlet fever is confined to man, and, perhaps, the swine; most of our specific diseases are absolutely confined to man. The human and ovine small pox, although so wonderfully similar, are not intercommunicable." The Chinese and the negro seem to have little or no susceptibility to the infection of yellow fever, and the Chinese is said to be almost free from susceptibility to diphtheria. We are all familiar with the influence age exerts on susceptibility to some of the infectious diseases. More wonderful than all is that immunity conferred on the subject, by a previous attack of some of these diseases. To bring an unprotected person within the influence of the contagion of measles, is to subject him to the probability of an attack of the disease; while a protected person, which means one who has suffered a previous attack, is safe from a subsequent attack, though his power of resistance of ordinary morbid influences may have been reduced to the lowest ebb by previous disease, by starvation, etc. Now it is evident, though we cannot appreciate the change that has taken place in such a person, that a most important change has been wrought upon the molecular constituents of his body, and that these molecules are endowed with the power of transmitting this protective influence to the succeeding

colonies of molecules which come to take their places in the economy—"like changing sentinels, (the atoms) that depart, seem to whisper their secret to their comrades that arrive." Thus, an attack of such disease contracted during infancy is competent to protect the organism from a repeated attack, during the whole life time of the individual. But this protective influence is not transmissible, for the children of protected parents are as liable to the ravages of the disease, as the children of parents who have not been so protected. This, we cannot but wish had been otherwise; but it does seem a great hardship to a large proportion of the human race, that the molecular change wrought by syphilis in the organism and which entails this disease upon the children of syphilitic parents, has not been made subject to a similar law, that by such reversal of the order of things, these children might be left an equal chance in the struggle of life, with those of non-syphilitic parents. Now, it is folly for me to insist in this presence, that immunity from contagion is the result of an important change that has taken place in the system in the one instance, or of a very singular variation of the usual susceptibility in another instance, the rationale of which so far as successfully eluded the human understanding. But let us hope it will not continue to be "past-finding out." For one, I believe there is no limit to the possibilities of progress, and I confidently look to the future for the accomplishment of the task of opening up to our understanding this most difficult of difficult problems. The value of such accomplishment to the department of preventive medicine, beggars computation. Could we but understand and control susceptibility to disease; germs would be shorn of all their terrors, they would, indeed, fall "by the wayside" and be "trodden down."

In our study of extraneous or outside conditions we are to take into consideration the "great chapters of air, clothing, dwelling, ventilation, heating, lighting, building-places and soil, their relation to air and water and their influence on the course of disease, drinking water sources of its contamination and its distribution among the population, alimentation and food, the maintaining of different classes of men under different circumstances, the collection and removal of excrementitious matter, and refuse from households and trades, drainage;" dead bodies, their inspection with

reference to the manner in which they should be disposed of; unhealthy trades and manufactories; schools, barracks, prisons, asylums, hospitals, etc.; contour of the earth's surface with respect to its undulations; forests, their influence on climate and on the spread of infectious diseases; race, nationality, heredity temperament and idiosyncrasy; age, occupation, customs; increment of population with respect to its tendency to pollution of streams and destruction of forests; agencies instrumental to the importation of infectious matter, and all other agencies and perturbations which furnish media for the propagation and transmission of disease, and which tend to lessen the power of resistance to ordinary morbid influences. This mere glimpse into this domain of science, though but an earnest of the immense work the future has in store for the representatives of preventive medicine, is as much as the intended limits of this paper will allow just here; in another place an example will be introduced to illustrate and give more definite shape to these vague and general suggestions.

You are now, doubtless, ready with the inquiry, what good is to come out of all this talk about conditions essential to the propagation of infectious diseases? What useful lesson is it expected to teach?

Turning to our summary of these conditions, we find we have to deal with, 1st. Living germs; 2d. Susceptibility; 3d. Media of communication; and, 4th. Outside or extraneous conditions. If we are satisfied these are the terms and the only terms upon which infectious diseases have their existence, the practical lesson taught by inquiry into their nature is, that to arrest and prevent the spread of such diseases, our efforts must be, to destroy germs or deprive them of their virility, to abolish or modify susceptibility, to neutralize media of communication, and to diminish the fertilizing power of outside conditions.

For guidance as to *how* this is to be done, we are obliged for the most part to look beyond the present to that future which holds out the promise of enlightenment to those who patiently and perseveringly dig into the mines of its hidden treasures. Faint glimpses occasionally visit us which foreshadow the great wealth of those mines, but let us not be too hasty in our interpretation of them, or in fixing their value; for instance, we have heretofore thought yellow fever

germs were invariably destroyed when subjected to a temperature below 32° F. ; and upon this supposition the government has appropriated funds for building a refrigerator to be used with the purpose of destroying them ; but recent disclosures from the U. S. Steamer Plymouth necessitates a more cautious acceptance of this doctrine. Very high temperature is destructive of all germs. This being true, have we not a great resource in *cremation of the bodies of those who die of contagious diseases*? Here we have in a compact bundle, myriads of germs in our power without the possibility of their escape ; and if there were no other grounds than these upon which to base its claims, they alone are sufficient to give to cremation a prominent place among the measures potent in the arrest and prevention of these diseases.

In regard to the various drugs used for the destruction of parasites, although I do not feel willing to ignore them, I have no convictions to urge. True, if we have only a box of clothes, or a close room, or the hold of a vessel to disinfect the task does not seem so great, but when our undertaking is with the whole outside atmosphere, a difficulty confronts us, which, with our present appliances, seems altogether insurmountable.

Of susceptibility, I can only refer to the great work of the immortal Jenner, who well nigh robbed small pox of its terrors, and whose example should ever serve as our incentive to press on in the direction he has pointed out to us. There may be a slight gleam of light on this subject from the antagonism of diseases, *as*, for example, the antagonism of emphysema to phthisis. I would here remind you of the supposed antagonism of measles to diphtheria, as suggested by Dr. McCormack in a letter to Dr. Grissom, which was read in this hall on day before yesterday.

Lister's method probably furnishes our best guide post on the way of our duty in medium of communication. He simply erects a barrier between septic germs and the bed in which they delight to grow ; his efforts to destroy germs, go no further than to fight off those which threaten to invade, while he is engaged in the erection of his barrier. The various respirators which have been suggested, even if they accomplished their purpose are only operative against atmospheric communication ; whereas, the great channels of food and drink are left open for the ingress of germs. "A thin board

partition seems to have stopped (yellow fever) on Governor's Island in 1856," and the city of Newbern furnishes an instance of a family of ladies escaping the disease by residing persistently on the third floor of their dwelling during the prevalence of yellow fever which visited us in 1864. These ladies inform me, their mother made a similar escape during the epidemic of 1811.

But probably the most reliable barrier we can put between germs and susceptibility, is distance, which should be sufficiently great to insure against the possibility of infectious contact. This is imperative for two important reasons. 1st. That we may deprive the contagion of material through which it may spread and thereby reach distant communities. 2d, for the preservation of those of the infected community, who may not already have contracted the disease, and who could only escape by being sent away from such infected district. Akin to this barrier, is that attempted to be supplied by the various systems of quarantine which probably furnish our most available means of protection against most of the contagious diseases.

In extraneous conditions, while a most important work, in order to make any systematic inroads upon them, would be to put together into groups such as appear to be essential to supply the necessary virulence to a given germ, whereby it gains the power of migration and self-propagation, (e. g. yellow fever group, temperature, moisture, altitudes, crowd) and then deal with each group specifically, I shall be compelled in our paucity of data to recommend the simpler method of considering them under the one comprehensive group of local conditions, assigning to each member of which, its supposed importance as a factor in the diseases under consideration. As it is impracticable here, to attempt anything like a comprehensive treatise of the subject, I beg to submit in illustration of my plan a single head of this group, viz. : *increment of population and its sanitary application*, with the exhortation, *Ab uno disce omnes*.

From increment of population we infer crowd, destruction of forests, pollution of streams, and other sources of water supply, etc. It is evident we cannot too early give direction to our efforts to counteract the absolutely certain tendency to growth of these conditions as a consequence of increase of population. Crowd is

essential to the spread of almost all the infectious diseases, and as it cannot be prevented, it will require the exercise of all our ingenuity to divest it, as far as may be of its baleful influences. To this end our care should be to secure pure air and water, wholesome food; in a word, to secure the best possible hygienic surroundings compatible with locality, etc. It is needless to remind you of the part our forests play in the economy of nature, their necessity to the perfection of animal life, their effects upon climate, their influence on the spread of epidemics. Steadily and rapidly they are disappearing before the march of population.

We cannot too soon determine how much more of them we can spare, and raise our voices against their reckless waste and destruction. Again, the pollution of streams and other sources of water supply, is the inevitable consequence of increment of population, provided, we do not alter our present system of disposing of garbage, sewage, etc. If we are to "take, therefore, no thought of the morrow" with regard to these matters, it does not require any great acuteness of prevision, to see our posterity a few generations in the future burdened beyond endurance, with these, our sins of omission and commission; and to him whose ears are deaf to the warnings that go up now and then from the English Rivers Pollution Commissions and from other sanitary commissions, may come the self-accusation, "*In me all posterity stands cursed.*" The word prevention implies *timely* action, we have no time to lose. These agents of our destruction may work silently, but they work incessantly; even their periods of repose, may be but periods in which they gather increased strength and force to renew their desperate work of death and dismay.

Let us organize and set about our preparations for defence against these death-dealing agencies. Our work is to strive to make ourselves acquainted with all their mysteries and intricacies, to extort from them their secret methods, which can be done only by diligence and perseverance. To us, is specially delegated the privilege to lead and direct in this great movement. To us, belongs the task of arousing the public, indifferent because of their occupation with other matters, to a sense of the danger that encompass them. Upon us rests the task of their education and enlightenment, to the end that they fulfill creditably, the part in the work, that of necessity belongs to them.

Byron has beautifully said "Words are things ; and a small drop of ink falling like dew upon a thought, produces that which makes thousands, perhaps, millions, think." How great my recompense could I but feel, that imprisoned here among these drops of ink, were one incarnate thought with which to break the recumbent silence that hangs around the mysterious confines of my subject !

And now, gentlemen, I bid adieu to the exalted position your partiality bestowed upon me. At no time since the beginning of my administration have I been devoid of the sense of my great responsibility ; at no time have I been free from a distrust of my ability to fulfill acceptably its requirements. In these, your never varying kindness to me on all occasions has been my stay and support ; for this kindness and for your generous patience with me on this occasion, I return my heartfelt thanks.

ROTATION OF THE HEAD WITHIN THE BLADES OF THE FORCEPS.

Read before the Medical Society of North Carolina at Greensborough, N. C., May 21st, 1879.

By T. D. HAIGH, M. D., Fayetteville, N. C.

Having, some years ago observed, in the first case in which I found it necessary to apply the forceps at the superior strait, that rotation took place within the blades of the forceps, I was led to investigate more fully the whole subject.

In this case I had applied the blades, I certainly thought, to the occipito-frontal diameter and when the child was delivered to my surprise the forceps were applied to the parietal surfaces. An examination proved that my diagnosis of presentation was correct, and that the forceps had been applied originally, just behind the ear posteriorly and over the brow anteriorly, for the marks of the forceps were perfectly plain at both points. How then, and when did the change of position occur ?

I remembered that after I had succeeded in overcoming the resistance at the superior strait and the head was advancing under

traction, (the uterus now contracting efficiently), there was an inclination of the blades to twist and separate from below—above. Fearing the forceps might slip, I readjusted them, and making only the slightest traction without any forcible compression, allowed the expulsive efforts to go on with very little aid ; very soon there was less tendency to separation of the blades, and resuming more generous traction, the child was delivered without further difficulty. Undoubtedly, I reasoned, here was the point of change, the head rotating within the blades, while I was looking for rotation of head and forceps together.

It rarely occurs to a practitioner in a town of 5,000 inhabitants to meet with more than one case where the forceps have to be applied at the superior strait.

Dewees in an experience of 40 years only met with six cases. In truth, in his day it was considered an exceedingly dangerous operation. Even Prof. Meigs contends against the application unless the head has descended well within the bones of the pelvis, "since (he says) the forceps is designed for the side of the head," p. 531, "a man can hardly be justified who inserts his forceps within the os uteri," which, of course he will have to do at the superior strait, and, as a general rule, at the inferior strait as he virtually acknowledges, for he and other writers on the subject are exceedingly careful in giving special directions to guard the os with one hand while passing the blades, lest they thrust the blades through the vaginal cul de sac. Under these impressions, of course, Meigs says nothing of rotation within the blades.

Ramsbotham speaks more in accordance with the present ideas in regard to the application of the forceps: "the application must be made in the axis of the strait along the sides of the pelvis—but *after the head has passed down*, and then, if needs be, substitute the short forceps, i. e., if rotation has been prevented by too powerful compression, remove the long forceps and while you are getting ready to apply the short ones, rotation will, in all probability, have taken place so that the short forceps (or the long ones either for that matter) can be applied to the parietal bones. He, however, says nothing of rotation within the blades.

I have consulted the works of Dewees, Doane, Cazeaux, Chailly, Churchill, Bedford, in fact, all the works in my limited bounds and

find nothing except in Velpeau and Leishman's on this subject. Velpeau speaks of it incidentally as a *possibility*, thus: "If the head having been seized by the occipito-frontal diameter has not, while descending *rotated within the clamps of the instrument* it must be abandoned at the inferior strait and be taken hold of more advantageously should the forceps still be needed;" very much the same idea as that quoted from Ramsbotham, though Ramsbotham does not speak of the rotation as possible.

Dr. J. L. Pary in a bracket note in Leishman quotes Dr. W. F. Jenks: "The great advantage which results from an instrument intended only to supplement a deficient vis a tergo is that the mechanism of labor, *can* and *does* in most cases, when the contraction is not too great, proceed undisturbed, the head rotating anteriorly inside the blades." He then proceeds to show from Brown, Hope, Scanzoni and Schneider, that there can be no disputing the fact, that rotation does occur within the blades.

It is rather singular that so few of our writers have noticed this change within the blades, and then have made no practical deduction from it. The general idea is that it is accidental, and outside and beyond the control of the operator, and therefore to be observed—not to be used. But why should not this rotation occur in every instance where the obstacle at the superior strait has been overcome and where the uterus has been incited to action by the stimulus of relief? Certainly if it can be accomplished then, one of the chief objections to the application of the forceps at the superior strait will have been overcome.

I have mentioned in the first part of this paper that my first case calling for the use of the forceps at the superior strait resulted in rotation within the blades, to my utter astonishment, the head could not pass down because of diminished antero-posterior capacity, and the woman had been in labor 48 hours when I saw her. It was her first child. Both mother and child did well.

The second case which came under my care was that of a woman who, in three successive labors, had been delivered by craniotomy after the uterine contractions had ceased entirely in each case.

This then was her fourth labor. I applied the forceps to the occipito-frontal diameter of the head and determined to test my preconceived idea that rotation would always occur in these cases when the

obstacle to the progress of the head had been overcome, provided the forceps were used only as a traction, and no compression used. My success was complete, the head rotated and the woman was delivered of a living child, and both did well. The third case occurred in the same woman with precisely the same results, at the expiration of two years, second child delivered alive, and mother and children are well at this day.

The discussion of this subject opens up a wide field, especially in the direction of the general use and mode of application of the forceps. Discussion always brings to light facts, and facts are worth all the theories in the world. It has been objected by some with whom I have conversed on this rotation within the blades, that if the uterus had sufficient power to complete rotation, then there was no further need for the forceps. While this may possibly be so, he would be a very unwise accoucheur who would relinquish the advantage of complete control, for an uncertainty, where there was no advantage to be gained by so doing, and this, especially in a case already exhausted by long continued exertion.

My idea then is, that the forceps in these cases should not be allowed to *hinder rotation* by compression, and further, that nothing but *passive* traction should be used while rotation is taking place, and then we can complete delivery as speedily as circumstances may demand. If the general theories of the causes of rotation are correct, the forceps are from this very conformation, of the greatest assistance in facilitating it. It has occurred, I suppose, to every one to have met with instances when the forceps seemed to be a necessity, to find the rotation suddenly completed upon the application of one blade alone, it having presented a better surface for the change than the natural curve of the pelvis. And, also, every one accustomed to instruments has observed how partial rotation nearly always takes place where the instruments are applied when rotation is nearly complete—the blades advancing up towards the pubic arch and slipping to the parietal surfaces as the change is completed. The more *useful* we make the forceps the *less* will be the *public prejudice* against them. Their judicious use is already overcoming this prejudice and saving many lives.

EXCISION OF THE EYE.

Read before the Medical Society of North Carolina, at Greensborough, N. C., May 21, 1879.

By THOMAS J. MOORE, M. D., Charlotte, N. C.

In the following case, to which I desire to call the attention of the members of this Society, I do not propose to offer anything novel in the manner of operating, but, by showing the condition of the eye which rendered an operation necessary, I present yet another instance of the correctness of the views expressed by Professor Chisolm, of Baltimore.

J. J. P., aged 15, came under my care on the 2d of February, 1879, suffering with acute inflammation of the eye, owing to a gunshot injury sustained on the 28th of December, 1878. Upon that day he went out hunting with some young companions, and while hidden from view, he suddenly flushed a covey of birds; one of the party discovering them in flight, fired, and J. J. P., was struck by two large sized bird shot. One struck him upon the side of the face near the temple, but did not penetrate the flesh; the other entered the right eye, penetrating the eye upon the left side at the sclero-corneal junction, in transverse mesian line, thence penetrating the iris on the same side.

From the most careful inquiries, I believe the following to be an accurate history of the case, previous to the time it came under my care:

Four days after the injury, inflammation set in, which produced pain, photophobia, lachrymation, with great redness of the orbital and palpebral conjunctiva. After poulticing for ten days with flax seed, the inflammation subsided (during this time the other eye appeared irritated, but there was no decided inflammation). After the subsidence of the inflammation the patient was attacked with parotiditis (mumps), from which he recovered in a few days. Upon the 18th of January, 1879, inflammation again set in and continued until the 2d of February, when the patient was brought to me for treatment.

At the time I examined him I found the shot had penetrated as above described, though it was impossible to discover how much

further it had gone, as neither the lens nor any of the posterior portion of the eye appeared to be in any way disturbed. The rent in the iris which extended through the entire left half of same, was very apparent; the scar at the sclero corneal junction could be observed, the aqueous humor was slightly clouded, the conjunctiva reddened, though I did not consider the inflammation intense. The eye was totally deprived of sight; the left eye was neither inflamed nor apparently affected.

The advice given by Dr. Chisolm in his article "Upon the course that should be pursued with an eye lost through accident," p. 5, is as follows:

"Should a foreign body inflict the injury, and remain embedded in the eye ball, the necessity for immediate removal of the eye, becomes even more imperative, as the presence of the foreign body (usually a piece of metal) makes the future suffering more certain." Again, upon the same page "When an injured and lost eye has been removed, the operation gives perfect protection to the good eye, which has not yet experienced any serious inflammatory attacks." "Until the injured and lost eye has been enucleated, there is no positive safety for the remaining one.

Recognizing the soundness of the views of the distinguished gentleman above referred to, I determined to operate at once. The patient was placed under the influence of chloroform and the operation first devised by Bonnet and O'Ferral in 1841, and introduced in London by Orichett in 1851 was determined upon. Fixing the lids with the stop speculum, and seizing the eye with a pair of forceps, I divided, with a pair of curved scissors, the conjunctiva around the cornea near the margin of same. Separating the conjunctiva by dissection from the sclerotic sufficiently to enable me to get in a strabismus hook, I divided in succession the four recti muscles, as near as possible to their insertion into the sclerotic. Commencing with the internal rectus, pressing upon the ball and forcing it partially through the opening in the conjunctiva. I divided the two oblique muscles, and, then seizing the eye upon the outside with the fingers, I drew it forward and inward, passed the curved scissors in behind, and cut the artery and nerve as close to the ball as possible. There was no hemorrhage and none of the precautions which have usually to be resorted to were

required. Owing to the inflammation, I determined not to bring the edges of the conjunctiva together with sutures ; but to allow natural contraction and adaptation to supply their want. Upon examining the eye, the shot was found embedded in the centre of the optic nerve just as it penetrates the sclerotic coat, and the shot was partially clipped by the scissors in cutting through the nerve. I have a part of the sclerotic coat and the section of the nerve with the flattened shot embedded in same, preserved in alcohol, which I present for inspection. In two weeks the conjunctiva was entirely healed, and nine weeks afterwards—an artificial eye was inserted which rests upon the cushion formed by the conjunctiva, and, as the muscles of the eye were all preserved, the motion of the artificial eye is perfect. As I have previously stated this case corroborates the views of Dr. Chisolm, and shows the importance of excision when a foreign body has penetrated the eye and remains therein embedded, whether the eye appears to be markedly inflamed or not, for, in time, it will become so, causing loss of sight, and the site of the other eye will almost invariably follow in its wake. If this eye had been permitted to remain, I cannot see how the patient could have avoided painful and persistent neuralgia, which in the end would have produced destructive sympathetic inflammation in the other eye, as well as rendered the life of the patient intolerable.

ECLAMPSIA GRAVIDARUM.

Read before the Medical Society of North Carolina at Greensborough, N. C., May 21st, 1879.

Reported by W. C. McDuffie, M. D., Fayetteville, N. C.

On the 10th of April, 1879, I was called about 5 o'clock P. M., to see Miss A. L. R., an unmarried girl, aged 17, 7 months advanced in pregnancy. She was very short and compact in build, and of former robust health, except for the last few months she had been greatly depressed; however, there appeared to be no warning of the

approaching storm. I was informed that she had suffered all that day with excruciating pain in the head and in the region of the liver, the skin was hot and dry, pulse over one hundred, the tissues were puffy and the limbs much swollen; I wrote a prescription for her, and left directions; but before the medicine was administered, I was resummoned with the message that she was dying; immediately upon reaching the bed-side, I saw the last symptoms of a convulsion passing off. I was informed by the nurse that she was sitting up in bed but a few minutes before in the act of taking a cup of tea, when she was seized with a convulsion, which lasted several minutes, and another more violent than the first had just passed off. My first impulse was to bleed her, but the circumstances surrounding were anything but favorable for reaching a vein; scarcely any light: at least, but a small piece of tallow candle. The arms not only rigid from the spasm, but greatly swollen. I therefore determined to depend upon the chloral hydrate for the present, at least, I hastily prepared an injection containing 48 grains, but even before this could be administered, another most terrific convulsion came on, which was the third. I succeeded, without assistance, (for the nurse had fled in dismay) to give the enema containing the above quantity, and it was well retained. I turned her on the left side and for some ten or fifteen minutes kept her in that position, when another slight spasm came, but passed off sooner than the others. I still kept her in the same position; she remained quiet one hour, when she became partially conscious; could understand what was said to her. I gave her, by the mouth, thirty grains of chloral; there was much difficulty in swallowing, as the tongue was severely lacerated. From this time she slept six hours, I remained by her, and when she awoke, in only a partial state of consciousness, I gave her another dose like the last. Again she was quiet and when I left I gave directions to repeat the dose at the next awaking, but I returned in six hours and did not then repeat it, gave her a little milk gruel and as she was disposed to rest, I waited until a later period to give the chloral. At this time the swollen tongue prevented distinct articulation, but the intellect was clear enough to comprehend what was said directly to her. The color of the skin was better, the pulse regular; and free and unobstructed action of the heart—no pain other than a great heaviness in the head and blindness upon attempting to raise up in bed.

Before stating the subsequent treatment, I will state that as soon as I could do so, upon my visit the night before, I examined the os uteri, there was no disturbance there, none in the least, and from long and close personal observation, I was satisfied that she was not for one moment experiencing uterine contraction, and had not at any time before the attack.

I now gave her a full dose of compound powder of jalap, which acted freely in three hours. While I would have hailed a rapid delivery at the first, with joy, yet I did not feel justified in proceeding to measures to bring it about, for really at the outset I had all I could do; so I decided that it was safer to battle with the ills I had, than to encounter, perhaps, another series of fits which I thought likely to follow the parturient effort. With this resolution I determined to keep up the use of the chloral hydrate at longer intervals and begin at the same time the use of diuretics. After the action of the hydragogue cathartic before named I gave full doses of acetate potash and digitalis; and that the nervous and vital energies might not only be supported but promoted, and the tonicity of the capillaries and the tissues generally increased, I gave tincture of iron.

The urine passed twelve hours after the last convulsion was the first examined. It was dark, thick and very scant, by the usual tests for albumen it showed a very large amount present, indeed, it was almost *solid albumen* upon the application of heat or nitric acid. Not increasing sufficiently in quantity, and fearing the worst eventually, I determined to give Frerichs' suggestion a fair trial in this case, I allude to benzoic acid. I gave 20 grains (made soluble by an equal quantity of biborate of soda), every six hours until six or eight doses were given. Frerichs says:

“This acts by arresting the poisonous effects of the ammonia, which results from decomposition of urea in the system.”

“That it is this subsequent decomposition that produces the bad effects upon the brain through the blood,” and that it is not the mere fact of urea being in the blood; that is, if the neutralization of the ammonia can be effected, we need not dread the consequences of urea in excess in the system. Therefore, it is recommended as a chemical reagent and is only serviceable while we are giving it, and until diuretics can be made available. Upon this theory I gave

it, and it may have done good. I pushed the diuretics, acetate potash and digitalis to the fullest extent. The acetate acting too freely on the bowels (as it will do in such large doses) I withheld it, but continued the digitalis, at the same time giving iron. By the fourth day the increase in the flow of urine was pretty well established, still the analysis made every day, showed but little improvement in its character.

With the assistance of the microscope, I could detect no blood corpuscles, but did see some epithelial cells, resembling pus corpuscles, these I only found the first day. The anasarca gradually left the patient, the urine becoming more normal in quantity, but still containing albumen. There was no motion of the fœtus at any time *after* the convulsions, and just one month from the time of the first seizure, that is, May 15th, uterine contractions began spontaneously, and continued with gradually increasing force for ten hours, when a dead, and partially decomposed child was expelled, having the appearance of a seven months growth arrested. The placenta was removed without trouble and the amount of hemorrhage insignificant. The lochia continued with gradual diminution, was quite offensive at first, but the daily use of Labarraque's solution prevented any great unpleasantness. She is now, I consider, well.

There was no symptom of spasms, no congestion about the head, nor pain, nor any manifestation of even nervous irritability during the ten hours of labor.

The above case illustrates *the power of chloral hydrate in puerperal eclampsia*, how far does the subsequent treatment illuminate the pathology of this disease? or, did the subsequent treatment have anything to do with the prevention of convulsions at the time of the labor? I have never been one to resort quickly to, or rely much upon, what is called experimental therapeutics, but this was a case that appeared to me justifying the risk, and if it be true, that the true pathology of puerperal eclampsia is decomposition of the constituent elements of the urine, and that this composition can and does take place in the system, why doubt the benefits that might be derived from the application of chemistry to practical medicine? This disease is one of such a fearful character; indeed, it has been well said, "that no other accident incident to the par-

turient woman (save, perhaps, rupture of the womb) is so much to be dreaded" that we may be excused, if in such an emergency, we resort to more than one mode of treatment, even at the same time. We are so accustomed to rely upon the kidneys to assist in the removal of poisonous matters from the system and we know that the kidneys can depurate the blood not only, of matters regarded as the constituents of the urine, but also, of compounds excreted by other glands; hence we so often resort to diuretics; but when we encounter an almost downright refusal of the kidneys to properly eliminate deleterious compounds from the system, and sometimes increase the flow of urine by the best diuretics, we may well, in such a dilemma, resort to some chemical agent, (for the time at least) that will neutralize the noxious element.

If this be the true pathology, the treatment is sound. Upon this, however, I have my misgivings. Since this case has been in hand I have given the subject some thought and looked up some of the recent literature of the disease, and while I heretofore relied pretty much upon the theory that it resulted from mechanical pressure upon the renal vessels first, then congestion from obstruction, then alteration in the elimination, and, of course, toxemia, yet Barnes' theory is rather more to my liking, also, Atwater's "emotional causes." I am half inclined to the belief that the disease is of nervous origin. There is much diversity of opinion amongst recent writers upon this subject. Atwater, of Vermont, in the last number of the *American Journal of Obstetrics* says: "in 1000 cases of midwifery noted in private practice, there were 12 cases of eclampsia—4 before delivery, 3 during delivery, and 5 after delivery. Four of the 12, I believe, he says were *illegitimate pregnancies*." This would show one-third of the whole of the eclampsia cases to be illegitimate. He attributes this large proportion to emotional causes. Of this, I am unable to speak from personal experience, as I have kept no record of this variety of convulsions.

We must all make our estimates from the experience of others combined, for fortunately one practitioner sees comparatively few cases in his whole life time practice.

A recent author says: "that in European practice only one case of eclampsia occurs in 350 cases of obstetrics," this means, I suppose,

at the time of delivery, and does not include the cases that occur before and after the parturient period, and if so, it accords very nearly with the experience of American practitioners, when notes are kept as in Professor Atwater's article. There he only had three during parturition which is one in 350, and the proportion before and after will, no doubt, hold good everywhere, or a little over one in one hundred. I am not prepared to go as far as this author in attributing eclampsia to emotional causes alone, or, at least, in believing that illegitimacy has so much to do in producing it, yet he argues well when he says: "That the nerve centres at this period are in a state of exalted irritability and sensibility, there is shame, fear of exposure, and solitary brooding, these strain, beyond control the nervous system which is already partly exhausted by the demands of pregnancy." "When wholesome control and balance are lost" he says, "convulsions ensue." He might have added unremitting anxiety as another emotional strain and this applies as well to legitimate pregnancies as to illegitimate.

Leishman rather favors Dr. Barnes' views as to the origin of eclampsia. He gives strong reason for these views. I have not time in this short article to quote him at any length, but will adduce a few negative reasons as I think to explain away the old theory of albuminuria. 1st. We know how often we find albuminuria connected with such specific diseases as scarlatina, diphtheria, &c., without convulsing, and 2d. It has been shown that it exists in probably as high as 30 per cent. of pregnant women, without convulsions, and 3d. In "Bright's disease" proper, we do not necessarily have convulsions. Again there has been a large increase in the percentage of recoveries since the use of anæsthetics has been adopted so largely by the profession, I state this upon the authority of Leishman, and from the success I have had in every case—true not many—with chloral hydrate. Since its addition to the materia medica, it has fulfilled in my hands, my utmost expectations.

One word upon the supposition that uterine contraction has an important share in this fearful trouble. The argument in favor of this, is clearly of but little force, when we consider the number who have convulsions during pregnancy and after delivery, and as was shown in this recent case here reported where there was not the

THREE CASES CONGENITAL PHIMOSIS AND ADHERED PREPUCE. 27

slightest disturbance in the uterine fibres, no appearance of reflex sensibility when the os was subjected to a digital examination.

Altogether, I see but little relation between uterine contraction and eclampsia; finally I am inclined to agree with those who believe that "the *nervous* system, and not the vascular, may, after all, be the starting point of puerperal eclampsia."

THREE CASES CONGENITAL PHIMOSIS AND ADHERED PREPUCE.

Reported by I. WELLINGTON FAISON, M. D., Fulton, N. C., to the Medical Society of North Carolina at Greensborough; N. C., May 22, 1879.

Case 1.—Felix H., aged 18 months, was brought to my office July 3d, 1878, by his mother. His general health seemed to be good. His mother stated that for two months she had not had a good night's rest for the screams and wild cries of her little boy at intervals during every night; but that in a few minutes on becoming calm he would readily return to his sleep.

A month before I saw the boy, she said she noticed that he had grown very clumsy and was troubled a great deal about passing his water. The weakness in the joints and relaxation of muscles continued slowly until he could scarcely go at all. Being earnestly taught and eagerly insisted upon by my celebrated and learned teacher, Professor Lewis A. Sayre, of New York, never to allow a case of this nature to pass without examining at once the penis, I proceeded to examine that organ, and on slightly touching the prepuce, instantaneously an orgasm of the whole system was produced. I advised circumcision as the surest and most speedy remedy.

July 4th. I called and performed circumcision after Prof. Sayre's method, as follows: I pulled the prepuce forward and clamped it with Atlee's cervical dilator, having nothing better to hand, then with one sweep with scalpel diagonally from above, downwards and forwards, I cut the prepuce off.

28 THREE CASES CONGENITAL PHIMOSIS AND ADHERED PREPUCE.

The cuticle readily retracted. With my thumb and index finger of each hand, I seized the mucous membrane and tore it from the glans penis; finding behind the corona glandis a hard ring of sebaceous matter which I removed. I then took a pair of blunt pointed scissors and slit the mucous membrane on the dorsum of penis. I used three sutures to stitch the mucous membrane and cuticle together—there was little or no hemorrhage. I dressed the penis with a thin cloth saturated with unguentum petrolii and ordered frequent applications of cold water.

July 5th. Little fellow cheerful; some little trouble on night of the 4th; ordered the dressings to be continued.

July 7th. Patient and mother both happy—no farther night trouble—had gained strength in lower extremities, removed sutures and continued the former dressings. Two weeks after, I saw my patient running around as if nothing had ever happened to him. Not one dose of medicine was given.

Case II.—John Wesley M., aged 11 months, was brought to my office October 8th, 1878, by his mother. She stated that two months ago, the child had aroused one night, hallooing and screaming as if something was trying to carry him off, and that by the time she got wide enough awake to turn to the child and find out what was the matter, he had quietly gone to sleep. This had continued ever since, being more aggravated. She then noticed him giving way in his knee joints, falling to the floor while standing up by a chair.

This gradually grew worse until he could not stand at all. For some time after this he could crawl about the room. After awhile he had to give up this pleasure and remain wherever he was put. It then followed that the muscles of the upper extremities ceased to obey the will, and finally the muscles of the neck became tired of work, and the head had support only by leaning upon the breast or shoulders. At this stage of the case I saw the child. He looked as if the last ray of hope was gone; extremely emaciated, his eyes were sunk deep into their sockets, and his tongue was heavily coated with brown material, his appetite utterly gone, his bowels very constipated, his abdominal walls rested upon his vertebral column, and he could pass his urine only with extreme difficulty. I examined his penis, and found it very much elongated and contracted, the slightest

touch producing a general orgasm. I advised circumcision, which required some explanation as the mother was illiterate.

She unhesitatingly declared that she would not submit to any such a thing, and exclaimed, that she would rather see her child die as a child, than to see him grow up and not be a man. I soon convinced her that I could cure the little fellow and would guarantee him to be a man.

She then gave her consent and I performed the operation as detailed above.

I found behind the corona gland a firm ring of sebaceous material encircling the entire penis. The meatus of urethra indurated and to the extent of about one-sixteenth of an inch covered with a white deposit, which I thought to be phosphatic. The case being such an aggravated one, I visited it regularly using the same dressings as in the other case.

October 12th. I removed the sutures and found the child improving. I gave 5 gtt. fld. extract ergot three times a day and 10 gtt. syr. iod. ferri three times a day; ordered friction with cold water along the vertebral column, night and morning.

October 14th. Sleeping well; bowels acting a little; could pass his urine in a full gush, and his appetite was improving. Continued the above prescription.

October 20th. Still improving; could now sit up and begin to crawl. Continued the syr. iodid. ferri only.

Two weeks later I saw the child, he was much improved and continues getting better. Just six months after the operation I saw the little fellow again, and he looked red and healthy. He could get about very well and seemed to be completely cured.

Case III.—Henry E., aged 15 months. This is a milder case than either of the other two. I mention it to show how little irritation at the point may cause reflex action. The adhesion was unilateral and the only reflex symptom was the cries at night. I used a grooved director, passing it up under the prepuce and forcibly detached the adhered part, removing from behind the corona glandis a firm portion of sebaceous matter. I gave small doses of brom. potassi. and hydrate chloral at bed time—with no further trouble.

The main pathology in all of these cases seems to be, without doubt, in my mind the irritation produced on the peripheral nerves

by the ring of sebaceous matter found just behind the corona glandis. With the same earnestness which my friend, Dr. Whitehead, urged every member of the medical profession to go at once and buy a copy of Dr. Sayre's work, for the purpose of treating spondylitis, I urge you to buy one for the purpose of treating congenital phimosis and adhered prepuce.

PUERPERAL ECLAMPSIA WITH PYOPHTHALMITIS.

Read before the Medical Society of North Carolina, at Greensborough, N. C., May 22, 1879,

By R. F. LEWIS, M. D., Lumberton, N. C.

Mrs. —, twenty-two years of age, three years married, had a very severe convulsion at the seventh month of pregnancy, and miscarried on the second day after, the child living but a few minutes.

Some impairment of vision followed, which was relieved in a few weeks by the internal use of strychnia, with blisters to temples, nape of the neck, and behind the ears.

Three more miscarriages followed at an interval of some months, no ill effects to the eyes following the misfortunes, twice she had convulsions preceeding.

On the 8th day of April last, I was summoned to see this patient. She had a few days before returned from a visit to her mother, a distance of twenty-five miles—had gone and returned in a buggy. She informed me that she was again pregnant. She had fever; a dirty, dry tongue, with some gastric irritability, and occasional rigors. She complained of a very severe throbbing in the left eye. I quickly produced a blister in the temple, with aqua ammonia, wiped off the skin and to the denuded surface applied morphia made into a paste with water. This had the effect of speedily relieving the pain, and in a few minutes she slept. I left her a powder containing 15 grs. of calomel and 5 grs. Dover's powder to be given that night.

The next morning she was suffering from cramp in hands, feet,

calves of the legs and tongue. Occasionally, she vomited, which seemed to aggravate this trouble, and for some moments after it she articulated with very great difficulty. She informed me that while absent on this visit above mentioned, she had been troubled with the cramp; but with nothing like the severity that she now suffered. Occasionally, her eye throbbed with pain this morning, and there was some tumefaction of the upper lid. Directed that cloths dipped in cold water be kept to the eye.

Knowing so well her former trouble, and fearing a recurrence of convulsions, I immediately prescribed the following mixture :

R

Bromidi potassii.

Chloral hydrat. āā 3 iij.

Syr. lemonis.

Aquæ, āā 3 iij.

M.

Gave her of the mixture a tablespoonful, and ordered it to be repeated every hour until the cramps were relieved. I saw her again in a few hours; she was entirely relieved after taking the third dose. The eye lid seemed more swollen and was discharging a watery fluid, tinged with blood. Continued the chloral mixture during the night, in smaller doses, when necessary to produce quiet.

Saw her early the next morning, the eye looked badly, an ugly clot had formed during the night, and was adhering closely to the lashes of both lids, completely shutting up the eye, and from each corner bloody matter was oozing. Promising to call again in a few hours, and having scarcely left the enclosure, when the nurse ran to the door and called me back. Upon entering the room I saw that she was frightfully convulsed. As soon as she could swallow, I gave her a double dose of the anodyne mixture—two spoonfuls, and in fifteen minutes gave her a smaller dose. About half an hour afterwards she had another slight convulsion. The medicine was then given in smaller doses, during the day and night. She had no more convulsions. The next morning the eye was discharging a little pus, and a bread and milk poultice was substituted for the cold water applications. The ugly clot was still there, and she resisted every effort, on my part, to remove it. I dropped into the eye, as well as I could, a solution of the nitrate of silver, (20 grs. to the oz. of water), and applied a blister of cantharides to the temple.

The nurse informed me the next day that there was some vaginal discharge. Upon making a digital examination, I found this to be the case; but there was no dilatation of the os, or any uterine contraction. During the night I was sent for, and found her in labor, and in a short time she gave birth to a foetus apparently of three months fecundation, the placenta coming away first, and in a partially decomposed condition. On the seventh or eight day after its appearance, the clot came away and the swollen lid rapidly subsided; then, for the first time since she became sick, I was able to make an examination of the eye ball. The cornea was in a complete state of opacity, and I feared that the organ itself, from its protruding appearance would soon break down and slough away. The lower conjunctiva now became involved and the whole lid was everted.

Directed the room to be kept dark; scarified the conjunctiva, and blistered the temple. Continued the nitrate of silver applications and the poultice. With the unaffected eye closed, she cannot distinguish night from day. Pus is being freely discharged.

The condition of the eye on the 25th day seems better, the inflammation is subsiding, and the ball appears to have assumed its natural size. I have, for some days, been dropping into the eye, a solution of atropine—2 grs. to oz. of water. The opacity continues. Sitting near a window, with the good eye closed, she can readily discern when the curtain is raised and lowered.

In the beginning I thought it neuralgia, and afterwards took it to be a case of purulent ophthalmia; and so continued to think, until I noticed the condition of the placenta, and the purulent discharge accompanying it; then I became convinced that it was a case of pyophtalmitis, resulting from the absorption into the circulation of the purulent matter in the uterus. The cramps she had on the above mentioned visit, were probably coincident with the death of the foetus in utero.

It is possible, if abortion had taken place at that time, she might have escaped this terrible disease of the eye.

The trouble began with her eye. No vaginal discharge took place until many days after she was attacked. This, in connection with the subsequent debilitated and anemic condition of my patient, I think, bears me out in my latter diagnosis.

Under the administration of quinia, s'rychnia and iron, she is

slowly gathering strength. There is yet some pain, occasionally, in the eye, and, I fear, that she may yet have to submit to its extirpation.

My object in presenting this case, is not to claim that I have thrown any light on the disease; but merely to call the attention of my brethren to its insidiousness. I have never met with a similar case, and I have not been able to find much literature on the subject. Professor Gross in his work on surgery, remarks that it is of such a destructive character, that treatment, however vigorous, avails but little. The proper treatment then is to prevent, if possible, the disease. When this is to begin, and what it should be, I shall leave to abler minds to explain.

GENERAL RICHARD TAYLOR'S LAST ILLNESS.

Lieut. General Richard Taylor while in Washington the latter part of February, as he was about to leave the house where he was staying, to go to a dinner party, was suddenly attacked with hematemesis, vomiting, it was said, more than a quart of dark blood. In two weeks from this time, he recovered his strength sufficiently to leave Washington and come on to New York. Previous to the attack of hematemesis, he represented himself, and evidently believed himself to be in good health, but his friends had for some months observed appearances of bad health. On his arrival in New York, he consulted Professor Austin Flint, Sr., who found the spleen greatly enlarged and tender on pressure, and some fluid in the peritoneum. His appetite was good, and he complained of nothing, except shortness of breath, and difficulty in going up stairs. The abdomen rapidly enlarged and became painful, and his general condition became worse.

March 23. Dr. Fordyce Barker was associated with Dr. Flint in the case. His appetite now began to fail and he suffered so much distress from the distention of the abdomen, that it became necessary to relieve him by tapping. and Dr. A. A. Smith drew off nine quarts of fluid. For the first time his physicians were now able to

make a thorough exploration of the abdomen. No tumor of the stomach could be found, the liver seemed normal as to size, and his habits of life and symptomatic history seemed incompatible with the theory of cirrhosis of the liver, while the enlarged spleen and the hematemesis, were believed to be due to some obstruction of the portal circulation.

For three days after the tapping, he was relieved of both pain and dyspnoea. Rising about ten in the morning, and sitting up until evening. He took nearly two quarts of milk with great relish, daily; but very little food beside. On the 8th of April, he began to complain of nausea, weakness, and disgust at the sight of any food. The next day he vomited more than a quart of fluid which was chiefly blood, having the appearance of black vomit. He also had several alvine discharges of the same character. April 11th, he became unconscious and died in the night.

AUTOPSY OF GEN. TAYLOR.

Autopsy was made by Dr. W. H. Welch, in the presence of Drs. Fordyce Barker, A. A. Smith, and C. T. Williams, twelve hours after death.

Exterior.—Emaciated. Old brownish cicatrix over crest of left tibia, said to be due to wound received in Mexican war.

Heart.—Dimensions of heart walls and of cavities normal. Recent fibrinous vegetation size of pea on auricular surface of mitral valves; also, several smaller fibrinous deposits on same surface.

Lungs.—Old pleuritic adhesions on both sides; hypostatic congestion and œdema.

Spleen.—Much enlarged, about ten inches long and six broad, consistence firm, capsule much thickened in certain spots. The organ contains several hemorrhagic infarctions, three of large size, one being four inches in diameter. The large ones are of dark red color; some of the smaller ones are partially decolorized, grayish red ante mortem thrombi can be detected in branches of the splenic vein leading to the infarctions.

Kidneys.—Surface coarsely lobulated; presents several cicatrix-like depressions; cortical substance thin; capsule non-adherent.

Liver.—There are two cicatricial depressions on the upper surface of the right lobe. The remaining surface is somewhat granular; but the cut surface shows no signs of cirrhosis or other change.

Peritoneal Cavity.—Contains several quarts of yellowish fluid, holding in suspension flocculi of fibrin; there is present recent fibrinous deposit over visceral and parietal peritoneum, evidencing acute general peritonitis.

Splenic and Portal Veins.—On the inner surface of the splenic vein, and, also, to a less degree in the portal vein there are several rough calcareous plates and spines projecting into the lumen of the vessel. Firmly attached to these calcific spots and extending throughout the splenic vein, and into the substance of the spleen and through the portal vein so far as its primary divisions in the liver is a grayish red thrombus, which, at the bifurcation of the portal vein, appears to completely occlude the lumen of the vessel. The thrombus is moderately adherent to the vessel wall; but is not organized.

Stomach.—Contains black coagulated blood.

Bladder.—Empty.

Arteries.—Very slightly atheromatous.

Brain.—Not examined.

Other organs normal.

ISOLATION OF THE YELLOW FEVER GERM BY THE “SIMILARS.”

On the opposite side of the fence from us, in the broad field of homœopathy, a Dr. Walter Bailey has discovered *the* yellow fever germ, and has actually shown the “fungus growths” to a convention of his confrères! How long the much-abused fungi will stand this constant charge of bad behavior, and be actually imprisoned by their accusers, and held up to the gaze of a learned concourse, as culprits, without their calling out for certificate of good character from Peck and Farlow and Ellis and Ravenel we do not know; but we think it is about time that arrest on mere suspicion was left to the baser sphere of a magistrate’s court.

New Surgical Dressings.—Use the cotton prepared by Am Ende for surgical dressings once, and you will not be without it again. It is beautiful to look at, and is the perfection of cleanliness and purity.

SELECTED PAPERS:

THE VIVISECTION QUESTION IN GERMANY:

The development of physiology during the last quarter of a century in Germany has been by general acknowledgement unprecedented in the history of science. Instead of being united with anatomy in one professorship in the universities it is now often argued that it is too wide a field for a single specialist. In determining of the large new Institute in Berlin, "the palace of the queen of natural science," according to the director, it was debated whether a year's course of lectures of five hours a week on general physiology must not be superficial, and whether the work should not be divided, as Pflüger and others have suggested, among its several constituent departments. A physiologist, it was said, must be by turns physicist, chemist, mathematician, toxicologist, microscopist, and now, by general consent, even by philologist, like Brücke, and philosopher like Wundt. The younger men who now overcrowd the market, and occasion the liveliest competition, devote themselves mainly to some one of its sub-specialties. The Berlin Institute is the largest of some half a dozen well-equipped and independent establishments of the kind which have been built in Germany during the last ten or fifteen years. Besides several auditoriums with every convenience for experimentation, and for bringing microscopic and other preparations under the eye of each student, it contains large and full furnished laboratories for physical and chemical work and for vivisection, intricate webs of electrical wires connected with constant batteries in the cellar, a magneto-electric machine of several horse-power worked by steam, and extensive basement apartments for frogs, rabbits, dogs, guinea pigs, pigeons, etc., all cared for by nearly a score of servants, famuli, and assistants, and all directly under the care and inspection of the government, with fully detailed records of all original work published in the various physiological archives. The preëminence of German science is nowhere more supreme than here.

These are the men and institutions against which the anti-vivisection movement is directed. The question is comparatively recent here, and has very different features from the agitation in England,

as a result of which vivisection is there allowed only to a very few eminent men by government license and under severe restrictions and liabilities. An illustrated brochure of nearly eighty pages, entitled the "Torture Chamber of Science," was published about the beginning of the present year, which has had an immense sale, already been translated into five foreign languages, and reached a sixth stereotyped edition. It is written with striking journalistic art by a young nobleman, who is one of the directors of the Dresden Anti-Cruelty Society. Public sentiment has been so aroused by the discussion thus evoked that eminent physiologists like Ludwig have been threatened on the street, and one of his more timid friends expressed to the writer his fear that the trouble might become as serious as in the case of Prof. Schiff, who was lately obliged to remove from Florence by a league of workingmen who threatened his life. The author has turned many hundred pages of archives, and describes the roasting of live rabbits, the effects of curara, the throwing of dogs with extirpated brains into water-vats, etc. He conjectures how many animals different physiologists have sacrificed, charging one by name with having tortured to death fourteen thousand dogs, gives a long list of contradictory or doubtful results reached by different experimenters, describes and illustrates affecting scenes where animals have pleaded for life, and students have turned away sickened not only from the vivisectorium but from the study of medicine, and concludes that the evil he describes is one of the greatest moral stains upon modern civilization, making physicians unsympathetic and often careless and hard-hearted. Physiology, it is said, can scarcely be called a science as yet, and the contributions of vivisectionists to the understanding and amelioration of human suffering have been almost nothing. It is as if one sought to learn the secret of Raphael's art by cutting up his canvasses. Science, it is said, will be brought into popular disfavor and ladies are exhorted to give up the patronage and acquaintance of all physicians who operate on live animals, and to become themselves members of Anti-Cruelty Societies, now too often controlled and often presided over by "hypocritical vivisectors."

There is no doubt that, after making all allowance for the extravagance and sentimentality, and even the ignorance of many errors in the statement of fact, in such arguments as the above, there is

sometimes unnecessary cruelty. It is largely a matter of individual character whether a physiologist carefully informs himself beforehand of all the results of previous experiments and of the anatomical situation, and specifies sharply in his own mind the question he wishes to determine, and the method of the least possible suffering by the use of anæsthetics when possible. Restrictions by competent authorities also cannot possibly be too great or numerous. But to one who is acquainted in laboratories and with their directors, the general charge of inhumanity is simply absurd. There are now very much fewer private experiments or experimenters than formerly. Nearly all studies are made by specialists and in institutes, with the greatest publicity, and thus contribute their moiety to general progress. In order best to observe, one must be collected and rapid, and for the moment unsympathetic; but every investigator knows that pain is always a disturbing element, and must be reduced to a minimum. Moreover, a clumsy or cruel experimenter is condemned nowhere more severely than by his own co-laborers. For ourselves, we cannot but regard the anti-vivisection feeling here as born of the same sentimentality of ideal over-refinement, wealth, or idleness which prompts the Brahmin to sweep his path before him lest he tread unconsciously on a worm, or a well-known Berlin clergyman to eat the flesh of only *large* animals, that he may share with many others the accountability for the taking of life; and which in this matter makes common cause with social democracy if the latter, as we suggest, may be defined as the consensus of the incompetent upon properly professional questions.

How much animals suffer when compared with men in the same conditions admits as yet of no psycho-physic formulation, and perhaps never will, but all indications drawn from the structure of their brain are that it is far less. Nearly all that is known of mitigating their pains and of curing their diseases is due to physiology. Their most inexcusable tortures are for man's amusement—the chase, pigeon-shooting, etc.—but how much more reprehensible these are than the excessive care lavished on lap-dogs, favorite race-horses, etc., we leave for moralists to determine, and content ourselves here with enumerating a few of the most general results which the practice in question has already contributed to the cure and prevention of disease. In certain cases of cramp, attended by dila-

tion of the pupils, vivisection alone has been able to teach that the trouble is in the cervical sympathetic nerve, and designated both the nature and place of the application of the remedy. Since Bernard found the cerebral point, the puncture of which caused diabetes, a long series of experiments on living animals have led to a new and far more successful treatment of this disease. The methods and conditions of the transfusion of blood, of the removal of diseased kidneys and ovaries, of artificial nourishment by stomach fistula, sub-periosteal re-section, the application of the artificial larynx, have all been learned by experiments on animals. The possibility of such operations could never have been first proved on human subjects. According to official statistics over twelve thousand men die annually in India from the bite of poisonous serpents. Professor Burdon-Sanderson conceived the idea of seeking an antidote by experiments on animals. Perhaps nothing could be more painful, and the discovery is not yet complete, but there is increasing reason to expect that it will soon be. After trichinæ were observed, and official microscopic examination of pork introduced, it became essential to know in what part or parts of body the parasite was to be sought for, and it was found that hams, carefully examined, were often still infected. By experiments on living animals the development history of the worm is now so thoroughly known that a single examiner, by the inspection of a part of the diaphragm, can tell at once and with certainty whether or not meat is marketable. Such are but a few of the immediately practicable ways in which animals have been offered to save human lives.*

It cannot be denied that there are very many details respecting the functions of the brain, the stimulation of circulatory centres, various secretions, reflexes, etc., in which eminent authorities can disagree, and which can be decided only by experiments on living animals, but the incontestable fact remains that whenever physiology is thoroughly cultivated it has almost re-created the study and practice of medicine. Helmholtz, who has never published investigations requiring vivisection, and who may be called an impartial and competent judge, in speaking of the wonderful technique which its methods have developed, adds that the practice has made accessible to scientific observation a great number of most profound

*See *Die Vivisection im Dienste der Heilkunde*. Von Prof. R. Heidenhain.

problems which a few decades ago seemed quite hopeless. Following the example of Claude Bernard, French professors often try to combine original observations with demonstration in the class-room, while in Germany it is held that a few fundamental experiments on living animals are indispensable for "heuristic" purposes alone. Every medical student has a struggle with his instinctive feelings in making acquaintance first of dissecting-rooms and museums of morbid anatomy, then of hospitals, and especially of surgical clinics; but every one knows these feelings must be repressed, or he will never have the steady hand and eye which gives poise and self-control in a critical emergency. The half-unconscious knowledge of this is no doubt at the bottom of much of the demonstrative and offensive, but often utterly insincere, affectation of hard-heartedness by young medical students. It is not only as necessary, but, we think, as natural for a good physician to grow more rationally sympathetic as for a moralist to cultivate conscientiousness. Vivisection is cruel, but disease, man's greatest enemy, is more so; and if we were to retort in Herr von Weber's style of argument, we might ask him if he would refuse to torture a favorite dog for even a forlorn hope of saving the life of a member of his family? We shoot noxious animals, slaughter calves and appropriate the mother's milk, etc., with the conviction that it is our duty to make way for the higher organization. For the same reason the physiologist has not completed his task when he has told us how animals grow; he must also describe the important changes which takes place between injury or the death of the brain and the beginning and progress of decomposition. No science has such problems and possibilities before it, and we consider the controversy we have attempted to epitomize as one of the most important of the many battles which science has waged with sentiment.—*The Nation*.

Do not forget to keep carefully the Record Book of deaths sent to you by the Census office. It is a small thing for the doctor to do, but in the aggregate it will accomplish a very desirable end.

REVIEWS AND BOOK NOTICES.

THE PRINCIPLES AND PRACTICE OF GYNÆCOLOGY. By THOMAS ADDIS EMMET, M. D. Surgeon to the Woman's Hospital of the State of New York, etc. Pp. 855, With 130 illustrations. Philadelphia. 1879. H. C. Lea, Publisher.

Never has a more valuable work on Gynæcology been issued from the medical press of any country than this.

It is very appropriately dedicated to the memory of the author's father, and to his many friends in the profession who have attended his clinics at the Woman's Hospital.

In the preface, reference is made to the large clinical field from which the fruits of his labor have been gathered. The tables, which occupied two years of his time not required for professional work, are marvels of accurate knowledge and patient industry.

Towards the close of preface the author remarks: "From the first page to the last I have cherished the same deep sense of responsibility that every conscientious physician must feel at the bed-side of a patient whose life is in his hands." This sentence we know to be so literally true, and which adds such a value to the work, that we could not pass it unnoticed.

Dr. Emmet has followed the beaten track of no one, but the major part of his work contains, truly, the fruits of his own originality. Possessed of the keenest powers of observation, and of a mind capable of interpreting the impressions conveyed to it by well trained senses, with the love of truth conspicuous among the qualities of his intellect, and the duties which he owes to science, this labor of love has produced an enduring monument of his fame, and placed, under lasting obligations, his brethren *throughout the world*. Feelingly can we say, he is as honest an investigator as was the lamented Anstie. More we could not say. Justice demands that we should not say less.

But now to the work itself.

Chapter I treats of "The Relation of Climate, Education and Social Condition to Development." The important part, and pith, of this chapter is how to make a girl the woman she should be—not to overtax her brain in learning French, German, Spanish, Music, &c., at the expense of poor physical development, entailing

menstrual disturbances, headaches, backaches, nervousness, &c. ; but to build up and consolidate a fine physical organization to fit her for conjugal and maternal duties, for God has appointed a place and a duty for woman, out of which she can neither accomplish her destiny nor secure her happiness.

Chapter II treats of the instruments used in examinations. In speaking of Sims' speculum, the author says : " Full justice, in the light of our present knowledge, cannot be done in the treatment of uterine diseases by any other instrument than this perineal retractor, or some other based on the same principle, and like it capable of exposing the whole vagina.

"In a single generation the use of this instrument has advanced the knowledge and treatment of the diseases, and especially the injuries, of woman from profound ignorance to a front rank, if, indeed not beyond that of any other branch of surgery." Yet, notwithstanding this assertion of this distinguished gynecologist, we know many practitioners of some reputation in their respective localities who never saw this simple instrument, and who, if they had one, could fly to the moon as easily as they could properly use it.

We now pass on until we come to Chapter V, which treats of " Causes of Disease, Reflex and Direct." And here we must notice what the author says about congestive hypertrophy of the uterus. Says he : " A whole generation of physicians has been misled by the delusion of *chronic inflammation and ulcerations* of the uterus, conditions which no one has yet been able to demonstrate in the dead body." He holds that inflammation of the uterine body (unless poisoned by gonorrhœa or some other foreign irritant) does not occur except after parturition, and that " those conditions which are commonly held to be the direct results of inflammation are due wholly to obstructed circulation in the organ, caused by pathological processes in the cervix and neighboring parts. In this way are to be accounted for the so-called uterine hyperplasias with their attendant leucorrhœa." In a word, he holds that, in consequence of the uterus being surrounded by a mass of blood vessels running through the cellular tissue, from impaired nutrition they lose their contractility, and that *venous stagnation* is the result. This, then, is the starting point of disease—in the cellular

tissue—whence comes congestive hypertrophy. “This condition will be found wherever the laws of nature have been persistently violated, by means taken to prevent conception, or where the act of intercourse has been improperly performed.

Just here we would like to “drop a pebble on the Cairn” of our dear preceptor, the great and good and lamented Hodge, but time and space will not permit. In the condition just named, as well as in all uterine diseases, the author attaches the *greatest* importance to the use of copious *hot* water, vaginal injections, the value of which in diseases of women he was the first to teach. He gives full directions and cautions in regard to their use.

When speaking of applications to the uterus, he, with other recent writers, thinks it questionable whether any lining membrane at all exists above the internal os. He, therefore, thinks it irrational to make a caustic application to this surface. Morgagni and Chaussier have denied the existence of a mucous membrane above the internal os, and while Barnes thinks it settled that there is one, he says: “Tyler Smith stated clearly, that after the menstrual flow the inner surface of the body of the uterus was left bare, a sharp line of demarcation being observed at the os uteri internum. This I have had opportunities of verifying.” Thus he thinks there is a “shedding” of the membrane at menstruation. If then, constantly renewed, as an outgrowth from the muscular tissue, why Dr. E. asks, “make a caustic application to a surface which cannot long exist in a state of disease independent of the tissues beneath, and we cannot hope to arrest a discharge until the whole surface has been seared over.”

Now we come to the most important subject which could possibly engage the study of the gynæcologist, and we regret exceedingly that we cannot, owing to the short space allowed, enlarge upon it; but we hope in the not distant future to treat of it *in extenso*. We refer to *urethral stricture in the male in its causative relation to gonorrhœa and other diseases in the female*. Dr. Emil Noeggerath, now a colleague of Dr. Emmet at the Woman's Hospital, is the only American gynæcologist who has given this subject the study its importance demands. Others have referred to it only in a general way. Under the head of “Accidental Causes of Diseases,” Dr. Emmet says: “According to the observations of Dr. Noeggerath, of this

city, the secretions from the urethra of a man who has a stricture, the result of gonorrhœa, are of a sufficiently irritative character to establish inflammation in the genital tract of the wife, its favorite locality being in the fallopian tubes." Five or six years ago, Dr. Noeggerath published in Bonn an essay on Latent Gonorrhœa in females, in which he says: I believe I do not go too far, when I assert that of every 100 wives who marry husbands who have previously had gonorrhœa, scarcely 10 remain healthy; the rest suffer from it or some other of the diseases which it is the task of this paper to describe." The diseases referred to are acute and chronic perimetritic inflammations, ovaritis and catarrh of the genital tract. At the first meeting of the American Gynæcological Society, 1876, Dr. N. read a paper on the same subject, embodying similar views. Dr. Barnes says his views have "an apparent basis in facts, and that the subject is worthy of further investigation." In speaking of gonorrhœal peritonitis, Barnes says: "The poison acting first at the point of contact, lights up inflammation of the vaginal and cervical mucous membrane. This spreads to the mucous membrane of the body of the uterus, thence along the fallopian tubes. The ovaries are very commonly engaged." Duncan corroborates these views, as does Thomas, who says: gonorrhœa, by passing into the uterus and through the fallopian tubes, is a fruitful source of pelvic peritonitis." Bernutz says 28 out of 99 of his cases had this origin.

Now for the benefit of those specialists who read nothing outside of their own branch (unfortunately there are too many of them), I beg to quote a few paragraphs from the late work of Professor Otis, of New York, on Urethral Stricture in the Male. On p. 75, he says, in speaking of "Gleet the Signal of Stricture"—"Sandal oil may stop it for a time; injections of innumerable variety may, any one of them, temporarily remove it; but a little venous or venereal excess will reproduce it, and thus the case goes on, getting as many such cases will affirm, *a new clap for every woman looked at*, until finally an attack of *retention of urine* calls attention to the fact that the patient has strictured urethra."

After enumerating five cases of gleet, Dr. Otis says: "Each and all the varieties of gleet above described may, it is believed, be proved to owe their persistence, if not their existence, to simple, localized, mechanical obstruction to the passage of urine."

So far as we have been able to learn, the first published statement (June, 1870) to show how a man, long well of gonorrhœa, but still having stricture of urethra, could infect his wife, is from Professor Otis (Vid. p. 20, of his work on Stricture of Male Urethra).

Now what is the lesson to be learned from the extracts we have quoted and the knowledge we possess? Manifestly this—that the gynæcologist who treats any disease in the wife which gleet in the husband could cause (unless another cause were very apparent), while treating the wife *he should examine the husband for stricture of the urethra*, and, if detected, he should be at once cured. For what would it avail to cure the wife, if she is to return at once to the bed of a husband with strictured urethra? We have devoted a little time to this subject because of its importance, and the ignorance of it by medical men generally, and because we believe that, on account of this ignorance, many a home has been the abode of misery which might otherwise have been bright and happy.

Now we must notice what we think is, beyond a doubt, the most important chapter in the book, the one on Pelvic Cellulitis. We are sure the author thinks so, too, for he says: “this disease is by far the most important one with which woman is afflicted.” He further adds: “It is the most common, and becomes the more important in being comparatively seldom recognized. I do not hesitate to make the assertion, as a truth based on my own knowledge, that many practitioners habitually neglect to recognize this condition when circumscribed, or they do not appreciate its importance if by accident it be detected. * * * * Its undetected presence may, to the end, thwart all efforts of treatment, or may gravely complicate the case by suddenly developing to a most serious extent. A great advance in the treatment of the diseases of women will be made whenever practitioners become so impressed with the significance of cellulitis as to apprehend its existence in every case. The successful operator in this branch of surgery will be he who is always on the lookout for the existence of cellulitis, or, who is taking measures to guard against its occurrence.” “The starting point,” says he, “in every case should be to determine the existence of the slightest trace of cellulitis.”

His rules for forming a diagnosis are very clearly given, and he considers no examination complete without an exploration *per*

rectum. On the latter he lays much stress, for extensive disease could exist along the upper part of the broad ligament and in the ovary which could not be recognized by a vaginal examination alone. The importance of the subject will justify me in again quoting in regard to what I have already referred. "My convictions are that while the primary cause of disease lies, through the influence of the sympathetic system, in impaired nutrition, we must look to pathological changes in the connective tissue as the cause of the results we now regard as the original disease in the uterus and ovaries." These views do not refer to the puerperal state. The author combats the view that cellulitis is secondary to metritis, salpingitis, or ovaritis. In consequence of the vast number of blood vessels and nerves distributed through the connective tissue of the pelvis, and the dependence of the uterus on them for supply, the author thinks this tissue more liable to become inflamed, "just as, for instance, he who transports nitro-glycerine is more exposed to danger than he to whom it is to be delivered." The etiology of the disease is well considered, and is a very important part of the chapter. Some valuable tables are given in this connection. Table XIV gives the "Causes of Cellulitis, Uncomplicated with other Local Disease." The author thinks too small a proportion has been attributed to the sewing-machine. It should never be used during the menstrual period. At other times it should be used with the greatest judgment by the most robust women, while, for the delicate no more certain means could be devised for producing disease." Table XV shows different diseases complicated with cellulitis. Table XVI shows how menstruation is affected by cellulitis and Table XVII condition of the menstrual flow after cellulitis. After most lucidly describing the symptoms, the author proceeds to the treatment. After reaction from the chill, the patient is given 15 grs. Dover's powder, and at the same time a hot water vaginal injection. The latter is so important that we give the author's own language concerning it: "This injection should be continued literally *for hours*, if possible, and be repeated at short intervals. It is the only means we possess for abating an attack of cellulitis, which *it will do, if thoroughly employed at the beginning*." The patient's position must be made comfortable, lying on her back with the hips well elevated, and great care taken to protect her from

exposure to cold. The author prefers a Davidson's syringe to a fountain, as he thinks the impulse of the jet of water needed to excite proper contraction of the vessels. The nozzle of the syringe should be a non-conductor of heat, or the patient will be burned, or excessively annoyed. The continued action of the hot water is to stimulate the circulation in the pelvis, that the local congestion may be relieved before serum is exuded.

Another remedy to relieve the congestion is opium, which is given per rectum. "The next stage will be a critical one, and will test to the utmost the recuperative powers possessed by the individual. It is of uncertain duration lasting from a few hours to days, and is generally "the one first seen by the physician, although not always recognized." Here "rest in the recumbent posture is *absolutely* called for," the body must be protected from cold, and the extremities kept comfortable by artificial means. Next comes a blister, followed by poultices. Nutritious food and tonics must be used. "To regulate the bowels during the later stages of cellulitis will prove a problem very difficult of solution." It is very important to prevent an accumulation in the bowels, to prevent obstruction to return circulation from the pelvis, and dyschezia, which would not only cause great pain, but aggravate the existing trouble. Oleaginous enemata must be given, but few are able to tolerate these, and it is often necessary for the physician or nurse to empty the rectum with the finger. To do this properly and efficiently requires no little skill. Mild and unirritating purgatives may be given, as sulphur and cream of tartar, but care must be taken to preserve the stomach for the digestion of food. Vaginal injections must be continued throughout the progress of the case, morning and night, using a gallon of hot water at each injection. The stages of exudation and infiltration may be regarded as one, the same treatment being applicable to both. We now come to the formation of pus, or Pelvic Abscess. We regret we have not time to do more here than to offer a little adverse criticism. In a patient with hectic or irritative fever, blood poisoned, and the vital powers so exhausted that the heart acts with greatly increased frequency to make up for lost force, we find the author extolling, among some well-directed and appropriate remedies, *aconite* for its *tonic* effect on the heart. We believe *aconite* to have just the opposite action. No notice of this

being taken among the "corrigenda," we must think the author means what he says. Then we ask him, in his next edition, to furnish the evidence to show that aconite is a heart-tonic, or hasten to use digitalis in its place. Aconite is considered by high authority a questionable remedy in sthenic (?) inflammation—in adynamic it is entirely out of place. We refer the author to the works of Ringer, Fothergill, H. C. Wood and Bartholow.

We should have said early in this chapter that some authors attempt a differential diagnosis between pelvic peritonitis and pelvic cellulitis. Our author acknowledges his inability to make any distinction at the bed-side. He says that inflammation of the pelvic peritoneum must involve the cellular tissue, and that we cannot have extensive cellulitis without pelvic peritonitis, which may become general.

The consequences of pelvic cellulitis, aside from its immediate dangers, are very grave. Sometimes the ovaries are destroyed by suppuration, or they may become atrophied, and the fallopian tubes be permanently occluded. Sometimes the uterus is permanently displaced by adhesions.

The succeeding half dozen chapters are on displacements of the uterus and the use of pessaries. The author starts out by giving the anatomical supports, and normal position, of the uterus. In the rectification of malpositions of the uterus and their treatment, and the adjustment of pessaries to hold the organ *in situ naturali* Dr. Emmet has few equals—no superiors. We have known cases to pass through the hands of distinguished gynecologists without relief, to speedily find it in his. In speaking of pessaries the author says: "From some members of the profession, the opposition to the use of pessaries is as denunciatory as if they were condemning a species of malpractice. This opposition may be sincere, but it is conclusive evidence of their ignorance. I have never known a practitioner who was able to fit a pessary properly, who was not also fully satisfied with the amount of benefit derived from its use." To the late Professor Hodge of the University of Pennsylvania, we are certainly indebted for well nigh all we know on this subject. His pessary or some modification of it is more frequently used than any other, and in retroversions and retroflexions none can equal it, or some of its modifications. Dr. Emmet's is the best modification

we have seen, and that of Dr. Thomas also for posterior displacements. "The pessary," says Dr. Emmet, "should be fitted for the vagina without any outside appliance whatever, and to accomplish this is the perfection of the art." We cannot say more of these chapters than to give them unqualified praise, and to assure the reader that a careful study of them will amply repay him.

We now pass to Laceration of the Cervix Uteri. Two years ago Dr. Sims said, referring to Dr. Emmet, "His operation for cervix uteri will give him immortal fame even if he should never contribute another thing to the progress of gynæcology." To Dr. Emmet certainly belongs the credit of priority in recognizing (1862) the frequency and importance of this lesion, and of originating the operation for its cure. In February, 1869, his first paper appeared on the subject, another in September, 1874, (translated by M. Vogel and published in Berlin, June, 1875), and a third in December, 1876. The last, with the previous one, was soon after published by Dr. Vogel, with a preface by Dr. Breisky.

Until recently this condition of laceration was universally mistaken for ulceration, the early stages of epitheloma and corroding ulcer of the uterus. To heal this "ulceration" baffled every mode of treatment until the true lesion was discovered, and the proper operation performed. A full recognition of the importance of this lesion throws new light on cases of elongated or hypertrophied cervix, and ulceration. Dr. E. thinks removal of the cervix is not called for except for malignant disease.

We must hasten on to briefly speak of one more important matter before closing this review. In speaking of Vesico-Vaginal Fistula, Dr. E. says: "I do not hesitate to make the statement that I have never met with a case of vesico-vaginal fistula, which, without doubt, could be shown to have resulted from instrumental delivery. On the contrary, the entire weight of evidence is conclusive in proving that the injury is a consequence of delay in delivery." In this connection we beg to refer the reader to the number for January, 1879, of the *Dublin Journal of Med. Science*, which contains a clinical report of 752 cases of forceps delivery by Dr. Geo. Johnston, late Master of the Rotunda Lying-in Hospital, Dublin. We are sorry we have not space to quote from this report, as it is a strong plea for the forceps when the second stage of labor is lingering. It

becomes doubly so when taken in connection with the above assertion of Dr. Emmet.

This work contains, in all, forty-three chapters embracing the whole range of gynæcology.

We have not had space to describe any of the operations which have contributed to make the fame of our author, nor to refer to his skill as an operator. We will mention, however, that in 1867 or 1868, after he had just finished an operation for vesico-vaginal fistula in the operating room of the Woman's Hospital, Dr. Sims, who had been looking on in admiration, exclaimed: "Well, Emmet is the best operator I ever saw!" This I thought quite a compliment, for Dr. Sims had seen the best operators in this country and Europe.

It gives me great pleasure to say here that Dr. Emmet has, in a most honest and ingenuous spirit, done full justice to the gynæcological labors of Dr. Sims.

We ask pardon for omitting to state until now that the author says, early in the work, that "the object in view throughout the book will be to impress the reader with the fact that *success in the treatment of the diseases of women lies wholly in attention to minute details.*"

As already stated, this is, emphatically, an original work; and I think it can be said, with great truth, of the doctrines taught in it what its author has said of hot water vaginal injections—that "they are destined to overturn both the theory and therapeutics of uterine disease, as now accepted."

This book will be bought and eagerly read by every physician who feels and appreciates the deep responsibility attached to his high and holy mission.

We congratulate Dr. Emmet on the splendid success he has achieved in producing a book which must prove of inestimable value to our profession, and, through its members, the means of conferring the greatest blessings on woman throughout the civilized world.

W. A. B. N.

TENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. January. 1879. Boston: Rand, Avery & Co. 1879. Pp. 310. With numerous diagrams and wood-cuts.

The volumes already issued by the Massachusetts Board of

Health have given a high standing to the members of the Board and the sanitarians who have aided them. The volume before us sustains the reputation earned by the Board, and we trust that the changes which have recently taken place, will not in any degree lessen their working capacity and opportunities. We have great faith in the learning and useful accomplishments of the gentlemen who have brought this Board of Health to so great a degree of success, and it surely must be that the sensible people of the old commonwealth will not for a long time allow their work to be eclipsed by any experimental methods whatever.

It seems to us that one matter in the leading article in this report deserves more than a passing notice. It is by T. S. Clouston, M. D., Edinburgh, and is entitled "An Asylum, or Hospital Home, for two hundred patients: constructed on the principle of adaptation of various parts of the House to varied needs and mental states of inhabitants," etc.

"In planning the asylums for the insane, built seventy years ago, the dominant idea in the minds of their architects was secure custody: in the course of those built about thirty years ago, the idea of curing patients had modified in a marked degree the jail-like features of the earlier buildings."

The author goes on to say that since the improvements in the character of the hospitals for the insane have been going steadily on. He describes the non-restraint plan at Morningside Asylum and elsewhere in Scotland, showing that there are no locked doors or asylum contrivances for security.

This plan he shows has been steadily growing into use in Scotland, so that "now there is scarcely an asylum that has not some wards where the access to them and the exit are as free as in any ordinary house or hospital." He believes that mistakes have been made in going from extreme to the other, but even the indiscretion of managers has done good. "The greatest advances in the treatment of the insane, from Pinel's and Tukes' time onward, have been made by running risks for the sake of benefiting the patients."

The principles of construction adopted by Dr. Clouston are laid down in forty-four propositions.

Four plans annexed illustrate the verbal description of the suitable buildings. We commend this article, and also the articles by

Dr. Edward Jarvis and Dr. Charles F. Folsom, in the third, fifth and eighth volumes of Massachusetts Reports, to our new State Board of Health, as containing valuable suggestions for the construction of our State asylums now in process of building. This is especially needed as the law makes the North Carolina Board of Health the sanitary advisers of the State authorities in the construction of public buildings.

The next article is on "The Growth of Children," a supplemental paper to the one on same subject in the Eighth Report, by Dr. H. P. Bowditch.

The article on "Common Defects in House Drains," by Eliot C. Clark, C. E., is one of practical importance, and teaches many valuable things ordinarily overlooked. The defective drain-structures are shown by numerous wood-cuts.

Over a hundred pages are taken up with the case of "Cambridge vs. Niles Brothers." This is a case in which the Board of Health was called upon by a petition of citizens of Cambridge, to cause Messrs. Niles Brothers, proprietors of a slaughtering and rendering establishment which was located within seven hundred feet of Fresh Pond, the water supply of the city of Cambridge, to "cease and desist." The building was characterized as a public nuisance, and the public health, comfort, and convenience, and particularly the health of all the persons who use the waters of Fresh Pond, required that the said building should not be used for the purposes of slaughtering and rendering. No decision had been given in this case up to the time of the issue of this volume, but the careful investigation of the case will have a marked effect on future investigations of water pollution, whichever way the case is decided.

Edward Cowles, M. D., makes "A Contribution to the Study of Ventilation, with Chemical Examinations," by Professor Edward S. Wood, of Harvard. This article is illustrated with diagrams of longitudinal sections of hospital buildings; cross sections of buildings showing velocities and directions of air-currents, etc., by Air Metre.

The general report on the "Health of Towns" is largely taken up with the report of Water Supplies in the different towns.

We commend the perusal of this and the preceding volume of this series to the new army of sanitarians just now looking out on

the field for the first time, not only as a good preliminary study, but for frequent reference.

PARESIS OF THE SYMPATHETIC CENTRES FROM OVER EXCITATION, by High Solar Heat, Long Continued and Suddenly Drawn, etc. So-called Malaria: Its Etiology, Pathogenesis, Pathology and Treatment. By CHARLES T. REBER, M. D. St. Louis: Geo. O. Rumbold & Co. 1879. Pp. 115.

This work the author tells us "is the result of thirty years of personal experience and observation, in regions of country specially favoring the prevalence of the disease," and that this experience "has fully demonstrated an imperative need of a more advanced and scientific presentation of the etiology and pathogenesis of this disease."

We wish we could feel as well satisfied as the author seems to be that he has made out his case. He remarks "it is quite evident that the air, *per se*, has nothing to do with the production of the diseases now known as the malarial diseases. If even the cause were some gaseous emanation from vegetable decomposition or other sources, a microscopic fungi (!) or any other material thing, the air will be the only vehicle, at most, and therefore should not be charged as the cause of so much evil."

He adopts the term hyper-thermia, not to convey the idea that the normal degree of heat is bad or injurious, but that a long-continued high solar heat, and the changes it undergoes, and the effects it produces, directly and indirectly, causes an abnormal irritability of the nerve-centres of the human body, which results in disease."

The following paragraph seems to be a summary of the theory the author hopefully expects will displace the "old *material* notion" of malarial fevers:

"The decrease and the increase of the body temperature, the chill and the fever, the depressed and the accelerated heart's action, pulse and respiration; the coated tongue and anorexia; the constipation and diarrhoea or dysentery; the deranged urinary and biliary secretions; the headache, delirium, convulsions and coma; the derangement of the intellect; sensation and voluntary motion; the neuralgic pains; the functional and organic diseases of the liver, spleen, lungs, stomach, intestines, and skin; anæmia, chlorosis,

hydræmia—are not the immediate result of excessive heat, but they are the immediate result of unduly irritable nerve-centres, whose office it is to govern temperature, circulation, respiration, nutrition, voluntary motion, etc. ; and this abnormal irritability, or lack of potentiality of the nerve-centre, is undoubtedly the effect of excessive heat.”

If the thermal theory is to supplant the malarial, it will be after our author, or some author has had “time for a fuller elaboration.” At present we prefer to be “beguiled by the old theory.”

AN ATTACK OF MEASLES AFFORDS NO PROTECTION AGAINST DIPHTHERIA.

To the Editors of the North Carolina Medical Journal:

Soon after my return from Greensborough, I set about the task of hunting up evidence bearing on the question of antagonism of measles to diphtheria, raised by Dr. McCormack's letter to Dr. Grissom which was read before the Medical Society at Greensborough. My inquiries as you see, have been limited ; but they seem conclusive. So far as our cases are concerned they prove positively that a previous attack of measles does not exert any restraining influence over the fatal tendency of diphtheria.

My observations extend to twenty-two cases of diphtheria, of which eighteen died, and four recovered. Of the whole number, eight had had measles and fourteen had not had measles. Of the eight cases that had had measles, *every single one died*. Of the fourteen cases that had not had measles, ten died and four recovered.

These cases speak for themselves, and lead to the conclusion that Dr. McCormack's record of his experience is simply a record of coincidences which will probably not be corroborated.

It is important to note in this connection, that prior to the diphtheria epidemic referred to above we had not had an epidemic of measles since 1872. The fourteen cases that had not had measles were all, with one exception, born since that date, therefore more liable, because of their tender years, to succumb to the disease, as well as the more liable to contract it.

Respectfully, CHARLES DUFFY, JR., M. D.

NEWBERN, N. C., June 2d, 1879.

CURRENT LITERATURE.

TREATMENT OF INJURIES OF THE SCALP.

“The hemorrhage from such wounds is generally but moderate, and in a short time ceases spontaneously. If it does not the application of a compress wet with cold water, and a moderate amount of pressure by means of a suitable bandage may be advisable. If, however, the bleeding is profuse, and if a vessel of some size is wounded it is generally best to secure it without delay by ligatures applied one on each side of the bleeding aperture in its walls. The hair should be removed from the scalp in the vicinity of the wound to a considerable distance on every side of it. Foreign bodies should be carefully searched for and extracted. The foreign substances most frequently found in gun-shot wounds of the scalp are the projectile itself or portions of it, hairs, fragments of the wounded man's hat or foraging cap, buttons, bits of metal torn from the soldier's uniform or equipments, and patches or wads if smooth-bore rifles or bird-guns are the weapons. Sometimes particles of powder are sticking in the wound, and, in rare instances, a tooth, a fragment of bone, or bit of clothing from a wounded comrade previously struck by the same bullet, which had been carried forward in its flight.

“All foreign bodies having been removed, bleeding staunched, and the wound thoroughly cleansed with warm water, the dressings should generally be light, and such as favor the separation of the eschar, and soothe the wound, *e. g.*, the water, or some other emollient application. Inasmuch as we do not expect to obtain union by primary adhesions, it is in general not necessary to coapt the edges of these wounds nor to secure them in any way by sutures, or plasters, or bandages. In exceptional cases, however, for example, when a portion of the scalp is stripped off by a fragment of shell, and still hangs by its edge, it is advisable to restore it as nearly as possible to its natural position, and retain it there by suture, and plaster, and bandage. Cuts of the scalp made by sharp splinters of exploding shells may sometimes be advantageously treated on the same plan. But in the large majority of the cases of gun-shot wounds of the scalp the objects of the local dressings

should be to soothe the inflammatory excitement, to promote the eschar, and after it has been cast off, to favor the granulating process. All accumulation of pus in the wound should be prevented, and to that end counter-openings should be made whenever necessary. Seton and fistulous canals should be cleaned at least once a day by syringing. If the inflammation is but slight, which fortunately obtains in most instances, some anti-septic and moderately stimulating lotion applied to the wound on a compress that is frequently changed, such, for example, as rectified spirit and water (part 1 to 4), or liquor soda chlorinat. (part 1 to 20), or a weak solution of carbolic acid (part 1 to 100), are generally found useful. If, however, the slough be extensive and the odor very rank, a stronger solution of carbolic acid (1 to 10), or of liquor sodæ chlorinat. (part 1 to 4), may be advantageously applied. After the process of cicatrization has commenced, and the wound has begun to contract, if the granulations are large, pale and flabby or weak, it is generally advisable to apply some dry dressing such as lint alone, or lint smeared with Peruvian balsam, or with resin cerate, and administer tonics internally, especially certain preparations of iron. The sesqui chloride of iron in the form of pill or tincture is one of the best chalybeates on account of the ease with which it is assimilated. When it is advisable to administer a bitter tonic along with a chalybeate, the citrate of iron and quinia is a convenient form for exhibition. If the granulations become exuberant they should be cut down with lunar caustic, or snipped off with scissors."

PUT MONEY IN THY PURSE.

A favorite theme with the medical commencement orator is that ours is a profession and not a trade; the object of a trade being to make money, and of a profession to do good to mankind. If it be meant by this that one is not liable to make money by the practice of physic, it is all very well; but if it be meant that one does not and ought not to try his best to do so, it is balderdash.

When any one enters upon the study of medicine he has precisely the same object in view which has the mechanic's apprentice or merchant's clerk. He means that his work as soon as possible shall gain him a livelihood ; he hopes for independence thereafter, and until he is chilled by disappointment has occasional visions of fortune farther on.

It is the sheerest nonsense to tell young men, and often old ones, too, who have raked and scraped their means together, and perhaps mortgaged their futures, to undergo the hardships of the benches and the perils of the students' boarding-house, that they have done so to fit themselves for a purely missionary work. They know that it is not so, and it is highly honorable that it is not so. "He that does not provide for his own household is worse than a heathen," were the words of one who also declared that "the greatest of these is charity."

The words of St. Paul are nowhere more applicable than to the profession of medicine. He knew full well that without money half the usefulness of the doctor is gone. He who is ever on the alert with the gifts of his services—or, what is a more common error, is careless in demanding proper recognition for his work—sins trebly—against himself, against his profession, and especially against those whom he thinks he serves. It may be his own affair when the doctor wrongs himself—albeit that besides money he loses too, in respect—and if his wife's gown be faded, and if his children be out at elbows, it is her back and their arms and his eyes that are most offended ; but he who enters the profession of medicine has duties to perform to the guild he has chosen.

Shall he always have money for his work ? Shall he demand the full fees of the schedule irrespective of the condition of his patient ? By no means. Such a declaration would be as silly as it would be inhumane. While all the giving of this world is not committed to the doctor, he has—especially if he be young—a special heritage in the poor. without whom clinics would stop and practice be a matter for graybeards only. But this is his opportunity, and he performs but his duty to himself when he embraces it. And again, while all the courtesies of the world are not committed to the doctor, he has his share to perform, and should do it gladly, rendering his services cheerfully and delicately to those who must not pay ;

and so, too, shall he bear his part as a citizen, says the Code, and lend his services to the public good in proper matters for his concern. These are the doctor's duties. It were cant and coarseness to call them charities. For these, too, has he ample opportunities—more than most men—in his daily life, among rich and poor and high and low, not in doing and giving only, but in sympathizing with distress, in bearing with human weaknesses, in conquering himself.

The doctor has no right to lower his profession in the eyes of the world, and so injure its usefulness. He who is careful in his business affairs, and charges those who are able to pay and should pay the full measure for his services, and sees to it that they are paid for not by suits, which are abominations, but by educating his people to pay, may gain the name of closeness, but really he is doing far more to raise his profession in the world's respect than the slipshod fellow who lets his bills go by from laziness, from lack of method, or from fear of giving offense. Not good-hearted, but rather chicken-hearted is he. We cannot alter the laws which make money or labor the unit of values. See how vain it is when the poor wretch for whom you have done your best saves from his miserable earnings a fee to pay not you, but another whose skill *must* be better, for it costs to get it. We cannot change human nature, for witness the seemingly astonishing abuse and detraction which is given in return for unpaid services by way of asserting independence, and see how low is our profession held by public officers when they see how the unpaid positions of doctors in the public service are eagerly sought for by members of the profession. "What do I care for doctors," said an astute ruler, "when I can buy them for a dollar a head?" A dear price, we are sad to think, it would be to pay for some.

And if the doctor—not through carelessness or ignoble fear of offense, but instigated by higher motives of supposed charity—do not demand his dues, grossly is he mistaken in the amount of good he does. We will not stop to consider the harm that is done by indiscriminate free medicine in destroying the independence—pauperizing the souls—of those who accept it; that is a well-worn theme; but point we for a moment to the valuelessness of free medicine. Whatever the amount of skill that is shown, no matter

care is given, it is a rule that free medicine loses in its effect. If there be some who in the nature of things do not pay for our services, it is their misfortune. The poor do not recover like the rich, and one reason is that among the comforts that they are denied is that of paying the doctor. Our most brilliant successes are certainly not among those who by courtesy are exempt from our fees; nay, it is even a misfortune, so far as health is concerned, for this patient to be joined to us by family ties, and thus be forced to escape our bills. Twenty years did the obstinate Fatima withstand the faith of her husband Mahomet, though millions who paid for his ministrations found comfort in his train.

What, then, is the end of this? Plainly, that we shall not make a charity of our business or business of our charity, no less for the good of our patients than of our pockets. Let us not deprive them of a single chance for their welfare when we can help it, and keep steadily in view that not by drug alone, but by ducat, is health regained.

The most important therapeutical law which has been enunciated since quinine came in use was made by Mr. Tuke, when he declared that imagination and the unseen forces "should be yoked to the car of Phoebus Apollo," and made so do their part in hauling that life-machine out of the ruts in which it may have fallen. As great, too, is the force of money in view or the prospect of pay. It quickens the faith of him that gives it, unlocks stores of wisdom in him that receives. Would that these words could reach a very important party in the action. To him whom we can address, however, do we say it—put money in thy purse when you can, my brother, that the world may respect us and that our ministrations may not fail.—*Louisville Med. News.*

The above very sensible article, like many others published by our estimable cotemporary, has made for the *Medical News* an enviable name. We always welcome this journal to our table, and never fail to read it, not only for its incisive wit, but for the peculiar ability shown on all themes, before the profession, and also for the discriminating judgment evinced in its selected matter, together with the broad field from which the selections are made. The last issue, June 21st, completed the sixth volume, and we congratulate our friends on the evidences of their prosperity.—EDS. N. C. MED. JOURNAL.

A NEW THEORY OF FAT FORMATION.

We condense from an editorial in the London *Lancet* the following :

“The recent labors of physiologists have cast no little doubt upon the old views, and the last writer on the subject of corpulence (Immermann who contributes an article to Ziemssen’s ‘Encyclopædia’) throws over the old views entirely, and adheres absolutely to the doctrines put forward by modern physiologists.

“It is now held that fat is formed principally from the albuminous elements of the food, just as the fat in fatty degeneration of the tissues, is derived from the organized albumen of those tissues. The albuminates, eaten with the food are used in part for the nutrition of the albuminous tissues, and the surplus which is not so used undergoes continued processes of metamorphosis and oxidation, and appear among the excretions in the form of urea, uric acid, carbonic acid and water. If, however, the albumen taken in with the food be in excess of the requirements, or if the obstacles stand in the way of its proper oxidation within the body, then a great part is deposited in the form of fat, instead of being burnt up into carbonic acid and water.

“The formation of fat from albuminates would appear to be greatly favored by this incomplete combustion, and when the fats and hydrocarbons are taken with the food as well as albuminates, the former, as regards a dividend of oxygen, are in the position of preference shareholders, and until their claims for oxygen are satisfied, the non-nitrogenous products of the decomposition of the albuminates get a scanty supply, and must be content to remain in a condition of penultimate metamorphosis.

“From this it will be manifest that, apart from diet, a deficiency in the supply of oxygen favors obesity. This is evident, whether the deficiency be due to sedentary occupation or to a want of red blood corpuscles to carry the oxygen to the tissues. On the other hand a good supply of oxygen, which is favored by rich blood and healthy exercise in the open air, favors the complete combustion of the food and diminishes the tendency to obesity.

* * * * “Whether the albuminates or the hydrocarbons be the immediate source of the fat, it is evident that by cutting off the

latter from the diet we stand the best chance of attaining a diminution of the superabundant adipose tissue. By permitting the patient to consume a fair proportion of albuminates, we keep his tissues well nourished, prevent anæmia, and encourage the activity of function which is the greatest enemy of undue corpulence ; while by cutting off the hydrocarbons we necessitate a thorough combustion of the albuminates, which thus form water instead of adipose tissue."

The *Lancet* also calls attention to the observations of Brillat Savarin on obesity made fifty years ago.

He insisted on (1) discretion in eating, (2) moderation in sleeping ; and (3) exercise on foot or on horseback ; but at the same time he remarks that his knowledge of human nature tells him that the self-indulgent mortals to whom he preaches will turn a deaf ear to all his good advice. Brillat's diet consisted in excluding farinaceous articles, such as Italian pastes, rice, potatoes, maccarroni, and white bread. In addition he was most particular not to allow eggs, as if his observant eye had foreseen what physiological chemistry has just told us.

He replaced the greater number of farinaceous articles by toast and rye bread, of which latter he astutely observes, people are certain not to eat too much. To allow a sufficient interval between the meals, and always to rise from a meal with appetite, were amongst the precepts which he thought it right to give. These were the precepts of Savarin in 1825 ; they were the precepts of Banting in 1869, and are the precepts of Immermann in 1878.

The art of sugar-coating pills so as not to impair their solubility, but to preserve the composition, keeping it soft and plastic, has acquired for Messrs. Warner & Co., a world-wide reputation. Physicians may rely upon the purity of the drugs used, and upon the mathematical nicety in which their pills, "granules," and "parvules" are divided. Every doctor may be his own druggist, and at the same time save himself the drudgery of it by using Warner's preparations. A bottle of quinine pills recently sent us by this firm satisfies us that this form is fully maintaining its reputation.

RHYMES OF SCIENCE: Wise and Otherwise. With illustrations.
New York: Industrial Publication Company. 1879.

We do not see why the compiler did not go further and give us more of the good verses known to the public, but not yet collected.

Here is a verse from Professor Edward Forbes' "Exposition of Buckle's creed."

"Would we know what men must do,
Let us watch the kangaroo;
Would we learn the mental march,
It depends on dates and starch.
I believe in all the gases
As a means to raise the masses;
Carbon animates ambition;
Oxygen controls volition;
Whate'er is good or great in men,
May be found in hydrogen;
And the body—not the soul—
Governs the unfathered whole."

POSOLOGICAL TABLE: Including all the Official and the Most Frequently Employed Unofficial Preparations. By CHARLES E. RICE, Chemist. Department Public Charities and Correction. New York. Wm. Wood & Co., 29 Great Jones Street. 12 mo. Pp. 96.

This work is intended to give the doses of official and unofficial remedies at a glance. The subjects are arranged alphabetically, and conspicuous signs indicate whether or not the article is official or poisonous, &c., &c. As far as we have detected, every dose is giving accurately, and the doses stated are within the bounds of great prudence.

PHOTOGRAPHIC ILLUSTRATIONS OF SKIN DISEASES. By GEORGE HENRY FOX, A. M., M. D. Forty-eight colored plates taken from life. New York: E. B. Treat, No. 85 Broadway. Price \$2.00 a part.

This work is to be issued in twelve monthly parts, each part consisting of four plates printed from original photographic negatives on fine card board 10x12 inches, with eight pages of descriptive text.

The number before us (Part I.) contains photographs of comedo, acne vulgaris, lepra tuberosa, and elephantiasis. It would be unfair to institute a comparison between photographic illustrations, and the more expensive illustrations in lithography in Duhring and Fox, and Hutchinson and Hebra, and Willan, but as a means of instruction these photographs will crowd out the more costly publications. Dr. Fox's photographs, are used by some of the most eminent teachers of dermatology in this country, and surely no higher praise need be given them.

The coloring is done by an anatomical artist, Dr. Gaertner, and is entirely free from the exaggeration which is the too frequent fault of all illustrations for medical works. The photographs are by a new process, and are warranted "not to fade through age and exposure to light."

HEARING AND HOW TO KEEP IT. By CHARLES H. BURNETT, M. D. Aurist to the Presbyterian Hospital. Philadelphia, Pa. : Lindsay & Blakiston. 1879.

This is one of the promised series of Health Primers to be issued by the well known Philadelphia publishers, and will prove a very acceptable volume to the class of readers for whom they were designed.

For many years the medical profession has considered it a desideratum to propagate popular teaching of the functions of the body in just this shape, and we hope now that commencing with this work on Hearing, each volume will be carefully examined, and if found worthy, its circulation promoted.

A careful examination of this volume will satisfy the reader that Dr. Burnett has presented the subject with the ability of a good teacher.

The illustrations are clear and good, beginning with the "Diagram of the Entire Auditory Apparatus of Man," the frontispiece.

The first division of the work treats of the Structure of the Ears, the second of the Physics and Physiology of Sound, Diseases of the External and Middle Ear, the care of the ear in health and in disease. We predict for the little pioneer a large circulation.

NATIONAL BOARD OF HEALTH BULLETIN.

The Bulletin which has long ago become a necessity, owing to the energy and accuracy with which a similar publication was inaugurated by the late Surgeon-General Woodworth, is just received, dated June 25th. State and local Boards of Health have the double advantage of gleaning for their own information and for the satisfaction of those who are daily propounding anxious questions to them about the health of certain localities, and also as a medium for reporting the condition of the State or city over whose health affairs they preside.

The National Board acknowledges their indebtedness to Surgeon-General Hamilton for the data upon this first report is made, and solicit the aid of health officers everywhere, by notes of the occurrence of epidemics.

The Bulletin announces that the Commission to examine Yellow Fever in Cuba sailed on the 3d of July. It is composed as follows: Dr. Stanford E. Chaillé, Dr. Geo. M. Sternberg, Dr. Jno. Guiteras, Col. Thos. S. Hardee. These gentlemen are well known, and carry with them the confidence of the profession in America.

The objects of this Commission are as follows :

1st. To ascertain the actual sanitary condition of the principal ports in Cuba from which shipments are made to the United States, and especially the ports of Havana and Matanzas; to determine how these sanitary conditions can best be made satisfactory, and especially as to what can and should be done to prevent the infection of the shipping at these ports by yellow fever.

2d. To add to our knowledge as to the pathology of yellow fever.

3d. To obtain information with regard to the so-called endemicity of yellow fever in Cuba, and the conditions which may be supposed to determine such endemicity.

The Commission will also endeavor to find some means of recognizing the presence of the immediate cause of yellow fever other than the production of the disease in the human subject.

The Commission is well supplied with microscopic and photomicrographic apparatus, and has a photographer and clerk attached.

The Commission will be absent about three months, at the end of which time it is expected that it will present a preliminary

report, and advise as to the direction in which investigations upon yellow fever can be best made in order to produce substantial advance in our knowledge of that disease.

The National Board of Health, as constituted under this act, is composed of the following members :

Preston H. Bailhache, M. D., U. S. M. H. S., Maryland.

Samuel M. Bemiss, M. D., &c., Louisiana.

John S. Billings, M. D., U. S. A., District of Columbia.

Henry I. Bowditch, M. D., &c., Massachusetts.

James L. Cabell, M. D., &c., Virginia.

Hosmer A. Johnson, M. D., &c., Illinois.

Robert W. Mitchell, M. D., &c., Tennessee.

Sam'l W. Phillips, Esq., *Solicitor-General*, District of Columbia.

Stephen Smith, M. D., &c., New York.

Thomas J. Turner, M. D., U. S. N., District of Columbia.

Tullio S. Verdi, M. D., &c., District of Columbia.

The Secretary of the North Carolina Board of Health hopes to send weekly bulletins of deaths from Raleigh, Wilmington, Charlotte, Salisbury and Newbern by the 1st of August.

AMERICAN HEALTH PRIMERS.

Messrs. Lindsay & Blakiston are issuing the following volumes to be issued about once a month.

Hearing and How to Keep It.—By Charles Burnett, M. D., of Philadelphia.

Long Life and How to Reach It.—By J. G. Richardson, M. D., of Philadelphia.

Sea Air and Sea Bathing.—By Wm. S. Forbes, M. D., of Philadelphia.

The Summer and Its Diseases.—By James C. Wilson, M. D., of Philadelphia.

Eyesight, and How to Care for It.—By Geo. C. Harlan, M. D., of Philadelphia.

The Throat and the Voice.—By J. Solis Cohen, M. D., of Philadelphia.

The Winter and Its Dangers.—By Hamilton Osgood, M. D., of Philadelphia.

The Mouth and the Teeth.—By J. W. White, M. D., D. D. S., of Philadelphia.

Our Homes.—By Henry Hartshorne, M. D., of Philadelphia.

The Skin in Health and Disease.—By L. D. Bulkley, M. D., of New York.

Brain Work and Overwork.—By H. C. Wood, Jr., M. D., of Philadelphia.

Other volumes are in preparation: "Preventable Diseases," "Accidents and Emergencies," "Towns we Live In," "Diet in Health and Disease," "The Art of Nursing," "School and Industrial Hygiene," "Mental Hygiene," &c., &c.

The series is under the editorial management of W. W. Keen, M. D., of Philadelphia.

We bespeak a careful consideration of this new list, now that the question of preventive medicine in North Carolina will be the uppermost theme for the next twenty years.

THE MEDICAL HERALD.

This is a new monthly journal which by inadvertence we overlooked. It is published in Louisville, Ky., by Dr. Dudley S. Reynolds with every promise of success. Its editor has industry and ability, and cannot fail to have his share of professional patronage. Subscription price, \$2.00 a year.

The Perineosinuexeruator.—Jacques Robinson, A. M., M. D., Surgeon to the Hospital for Ruptured Vesicles, Member of the Anteversion Society and Round Ligament Club," will please accept our thanks for his monograph on the above subject. The doctor surely must have studied very closely the instruments exhibited before the Section on Gynæcology at the Atlanta meeting of American Medical Association.

MEDICAL ANNOTATIONS.

The Import Duty on Quinine Removed.—We are now to have free quinine! And then what? Will the prices now paid be materially decreased? We will see. The doctors who keep their own drugs will be still at the mercy of the retail druggists, and the retail druggists at the mercy of the speculators, and after all quinine is not so free as it is expected to be.

It is very much to be deprecated that Congress should abolish the duty on quinine, without they do this as an assurance that this is the initiation of the policy of free trade.

We do not speak as politicians, but if a law is to be passed abolishing the duty on quinine for no other reason than that it is an expensive alkaloid, then it ought to extend to opium and other articles. The friends of the movement will see that if there has been a large margin in the favor of the manufacturer and druggist before, that margin will still be out of their reach with free quinine.

The North Carolina Dentists.—The dental profession have shown commendable zeal in their progress in the last few years. Their organization into a Society has been effected in the last five or six years; but by united effort they succeeded in having a law passed by the last legislature, creating a Board of Medical Examiners, with powers similar to those granted to the medical profession. We wish them all the success attainable, and congratulate them on this radical reform they have undertaken. We do not know whether the dental profession is as much in need of moral reform as the medical profession; but if it is, the work of the Board of Examiners is going to be a difficult one.

Excision and Regeneration of the Scapula.—Dr. Mikulicz brought before the Vienna Medical Society, a girl ten years of age, upon whom Professor Billroth had performed the sub-periosteal excision of the scapula, the bone, at the time of exhibition (three-quarters of a year after the operation), having become almost completely regenerated. An incision having been made parallel to the spine of the scapula, and another perpendicular to this opening into the shoulder-joint, the bone was easily raised from its periosteal covering, the raspatorium being required at its edges and projecting parts, and the coracoid process and acromion being nipped off. The wound healed by first intention, only two of Lister's dressings being required—the first for six, and the second for eight days. The new scapula is somewhat smaller in all its dimensions, and the acromion is only rudimentary. The arm performs its functions quite well, except that the power of raising it is somewhat defective. The completeness of the movements of the upper arm leads to the

conclusion that a new joint has been established. There is only one other case (Linhart's) of complete regeneration of the scapula recorded in medical literature; and it is of much interest, as showing the great reproductive power of the periosteum. In experiments upon animals, the scapula has always shown itself as especially disposed to regeneration.—*Wien. Med. Woch.*, Jan. 11.

Spontaneous Fires.—A useful hint may be taken from the following paper, lately read on the subject, before the French Academy of Sciences by M. Casson, in whose laboratory an outbreak of fire had occurred in consequence of the action of a current of air at a temperature of only about 77° Fahr. This had ignited some boards; and thus originated what would probably have been a serious conflagration had it occurred at a time when M. Casson was not there at once to extinguish it. Some members of the Academy offered confirmatory evidence as to the power of only warm air to ignite wood exposed to it for a considerable time. It was stated that pulverized charcoal, owing to its power of rapidly absorbing air, will often ignite spontaneously. After long exposure to warm, dry air, the woodwork of a house is frequently reduced to a condition similar to that of this charcoal powder. It is brought down to a porous, spongy state, capable of rapidly assimilating oxygen, and therefore of generating intense heat. An unsuspected danger may, from the causes here stated, often be imminent, and probably is the origin of many of the mysterious fires which occur.—*Med. Times and Gazette.*

Transplantation of Teeth.—Among the re-discoveries in surgery is the transplantation of teeth, a feat which John Hunter performed successfully about a century ago. The transplantation of syphilis then as now was the disaster that soon eclipsed the brilliancy of it.

TO OUR READERS.

PORT GRAPE WINE FOR SICKNESS.

Decidedly one of the nicest and most creditable of any article of Wine we have ever seen, is the Wine bearing the above name made from the Portugal Port Grape cultivated by Mr. Alfred Speer, of Passaic, N. J. This wine under the hand of Mr. Speer, has been brought to a state of great perfection. It possesses the very highest medicinal virtues, and certainly as an article of beverage it is not, in our judgment to be surpassed in color, taste, or any of the qualities which constitute a pure, mild and agreeable wine.—*Boston Transcript*. Salesroom 34 Warren street, N. Y.

OBITUARY.

TILBURY FOX, M. D.

Dr. Tilbury Fox died suddenly on June 7th, while on a visit to Paris. Dr. Fox, who was 43 years of age, was especially distinguished as an authority on skin diseases. He was the author of "Skin Diseases of Parasitic Origin, their Nature and Treatment," published in 1863; "The Classification of Skin Diseases," published in 1864; "Skin Diseases; their Description, Diagnosis and Treatment," which reached its third edition in 1872; "On Eczema, and incidentally the Influence of Constitutional Conditions in Skin Diseases," published in 1870; "The Atlas of Skin Diseases," published in 1875; and "The Epitome of Skin Diseases," which reached its second edition in 1877. In 1875, with Dr. Farquhar, he issued a report upon the endemic skin diseases of India. He contributed various papers and clinical lectures on skin diseases to many of the medical papers.

A. E. WRIGHT, A. M., M. D.

After a long and weary illness of many months, Dr. Wright died in this city of apoplexy.

He graduated at the University of North Carolina in 1853, and in medicine at the University of the city of New York in 1856.

He received one of the earliest commissions as Surgeon from the State, and was in charge of a general military hospital for almost the entire period of the war.

He was chosen Superintendent of Health for the city in 1876, which post he filled until stricken with paralysis in 1878.

His many friends throughout the South will receive the announcement of his death with many a kindly word of sympathy and regret.

His last days were the peaceful days of a Christian physician.

We announce with sorrow the sad news of the death of Mrs. Warren, the accomplished wife of Dr. Edward Warren (Bey), in Paris.

BOOKS AND PAMPHLETS RECEIVED.

Diseases of the Intestines and Peritoneum. By John Sayer Bristowe, M. D., J. R. Wardell, M. D., J. A. Bigbie, M. D., S. O. Halershon, M. D., T. B. Curling, F. R. S., and W. R. Ransom, M. D. New York. Wm. Wood & Co. 1872. Pp. 243.

Bulletin of the American Metric Bureau. Merit Dewey, Secretary. General offices 6, 7, and 8, 32 Hawley street. Boston. 1878.

On the variability of *Spæria Quercum* Schro. By J. B. Ellis. Reprint from proceedings of the Academy of Natural Sciences.

Posture as a Means of Relief in Strangulated Hernia. With a general consideration of the Mechanism of Reduction. By Frank H. Hamilton, A. M., M. D. Reprint from Hospital Gazette, 1879.

The Radical Cure of Hernia by the Antiseptic Use of the Carbolized Catgut Ligature. By Henry O. Marcy, A. M., M. D., Cambridge, Mass. Reprint from Trans. Am. Med. Association.

Other Symptoms of Nervous Exhaustion, (Neurasthenia). By George M. Beard, A. M., M. D. Reprint from Jour. Nerv. Dis. Chicago, Ill. 1879.

Lectures on Electricity in its Relation to Medicine and Surgery. By A. D. Rockwell, A. M., M. D., etc., etc. New York. Wm. Wood & Co., 27 Gt. Jones Street, N. Y.

First Annual Report of the State Board of Health of the State of Rhode Island for the year ending Dec. 31st, 1878.

Hints on Obstetrical Procedures. By Wm. B. Atkinson, M. D. D. G. Brinton. Philadelphia. 1879.

Hints in Obstetric Procedure. By Wm. B. Atkinson, A. M., M. D., Philadelphia, Pa. D. G. Brinton, 115 South Seventh St. Pp. 120.

Some Notes on the Treatment of Ulcers of the Cornea. By C. W. Hickman, M. D. Augusta. Ga. Jas. L. Gaw, 1879. Pp. 11.

Paresis of the Sympathetic Centres from over Excitation by High Solar Light, Long Continued and Suddenly Withdrawn, etc. So-Called Malaria: Its Etiology, Pathogenesis, Pathology and Treatment. By Charles T. Reber, M. D. Pp. 12—IV. St. Louis. Geo. O. Rumbold & Co. 1879.

A Biographical Sketch of the Professional Career of the Late Professor Eli Geddings, M. D. By Drs. F. M. Robertson, F. L. Ogier and J. P. Chazal. Pp. 71.

Fourth Annual Report of the State Board of Health of Massachusetts. January, 1879. Boston. Rand, Avery & Co., Printers to the Commonwealth, 117 Franklin street. 1879.

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ORIGINAL COMMUNICATIONS.

MODERN THERAPEUTICS IN ITS RELATION TO EXIST- ING PHYSIOLOGY.

Annual Address delivered before the Medical Society of North Carolina, at Greensborough, N. C., May 22, 1879.

By WILLIAM W. LANE, M. D., Wilmington, N. C.

Mr. President, and Gentlemen of the Society, Ladies and Gentlemen:

Before entering upon the subject matter of my remarks, Mr. President, I feel that I should be recreant to my obligations to my fellow members of the State Medical Society if I did not first thank them for this manifestation of their esteem, to an humble member of their body.

When, Sir, I look around me and see so many prominent gentlemen of the profession, men qualified to dignify any position to which they might be called, not only in our State organization, but who might fill with honor and credit the Professor's chair. I feel, indeed, how unwise the choice has been in selecting me as your speaker on this occasion.

Mr. President, I utter no fulsome flattery when I say the Medical Society of North Carolina is composed of no ordinary men. They are men whose lives are devoted to study and the investigation of scientific truths. Their labor is one of humanity! I feel proud of my association with such men, and my membership with this time-honored Society, and can remember no time in my life, when my breast was more full of honorable pride than it is to-night, in occupying my present position.

I regard it as no mean honor to be privileged to address so distinguished a body, coming, as they do, as representatives of sections of our good old State. I say time-honored, for there are few of those who met in its organization twenty-six years ago, now with us in our yearly meetings; but the Society has grown in strength and usefulness. It not only brings us together each year in social re-union, where we can have that interchange of views so necessary in keeping bright our medical knowledge, but it has elevated the standard of professional men not only among themselves, but in the estimation of the laity. The Medical Board of Examiners have accomplished much in this direction, and it is to be hoped no young man who proposes to practice medicine in North Carolina will neglect presenting himself before this Board, and obtaining their certificate of his worthiness and proficiency.

It would probably be interesting to state here, a fact connected with the early history of medicine in our State, and one, perhaps, few or none of the present members of our Society, have any knowledge of. It seems that as far back as 1799 or 1800, the Medical Society of North Carolina was chartered by the Legislature. So far were they advanced in 1801 that prizes were offered for the cultivation of certain drugs formerly imported, such as rhubarb, in quantity not less than five pounds, opium not less than five pounds, castor oil, &c. At the same time also, a candidate for membership, after being examined in open meeting by the Board of Censors, was admitted.* The Society was again revived in 1849. In 1859, ten years after the reorganization, the present Board of Medical Examiners was created by the Legislature, which has been in operation ever since with the exception of four years of war.

The provision of this law is well known. During the dark period

*North Carolina Medical Journal, May, 1879.

of our existence in 1868, a strong effort was made by one Rev. Welker, a member of the Legislature to repeal the law ; but through the able exertions of Dr. C. Tate Murphy, a fellow of our Society, and then in the Senate, this attempt was frustrated.

It is worth while to state, that it so happened that the estate of Senator Welker was saved from the clutches of a quack, through the instrumentality of the very law he attempted to defeat, the claim of the man who had attended him in his last illness, was denied on the plea of his having no license to practice under the statute of 1859. On the refusal of his bill he made application to the Board of Examiners for license ; but was refused on grounds sufficient to the Board.*

The public and private good derived from such an organization and its influence upon society at large is incalculable. Let us see then that we do our full duty to ourselves and to our people, not lagging in professional zeal, but showing our work lies upon an elevated plane above the ordinary avocation of life, and that money paid for services rendered, however necessary to our maintenance, is not the sole object of our lives.

Society looks up to us for aid and advice, not only in all the afflictions of domestic life ; but also in all matters of general hygiene, pertaining to the public interest.

We cannot expect the public to estimate us by any other than that of our usefulness : a practitioner may be a gentleman of high education, accomplished in all the requirements of his art, a diagnostician of acknowledged ability ; yet, he must possess that tact which renders him an agreeable companion, and the affability that makes him accessible to all the classes ; and above all, he must inspire the confidence and ability to relieve his patient of the various diseases and injuries we are subjected to.

The important bearing, Gentlemen, that modern physiological enquiry is now having upon practical medicine, and the increased importance given to the subject by the great medical thinkers and workers of the present epoch, has induced me to select "Modern Therapeutics in its Relation to Existing Physiology," as the subject of my remarks on this occasion. In the earlier days of our art, and in many instances even now, our practice was little more than a

*North Carolina Medical Journal, May, 1879.

rational empiricism, based frequently on the experiences of our predecessors, and the necessity and urgency of the case.

The anatomy of the human body was little known, and that was comparative, drawn from the examinations and dissections of the lower animals : physiology as we now understand it was unwritten.

We can only appreciate our present knowledge of therapeutics, by noting the progressive stages of the art, as handed down to us from the earliest times.

Particularly are we indebted to physiological chemistry for the explanation of many of the phenomena of life, and we may confidently expect still further light to be thrown upon the laws of nature, which are now hidden mysteries. By its aid are we enabled to study the functions of the parts in their relation to disease, and thereby enabled to apply our therapeutic knowledge intelligently.

The tendency of modern medicine is to positiveness ; the endeavor must be to give a physiological reason for the exhibition of remedial agents. An accurate knowledge of the science of medicine, must be based upon our acquaintance with physiology, or, as it is termed, the science of life.

Our practice cannot be otherwise than empirical unless guided by an enlightened physiology. All the phenomena of life are ordered and governed by physical laws, which, though in many instances, are to us obscure and mysterious, still, must we be directed by the present lights that are before us. Fothergill in his excellent treatise says all therapeutics, whether curative or palliative, must rest, if they aspire to be rational and successful upon a sound comprehension of the nature and exact position of the malady. Much remains to be investigated ; much to be learned, before the science reaches its highest influences. But if such is the case, we should not be discouraged, for many are the able and enthusiastic workers who are arduously laboring in laying deeply and firmly the foundation of a rational therapeutics.

We cannot fully appreciate the present condition of our science, without taking a retrospective glance of the knowledge existing among the ancients in the earliest periods of society. It is a natural enquiry, in reflecting on the present status of medicine, to ask ourselves, what was the origin of our art, and where it began ? It

is interesting and instructive to trace its history from the most remote period of antiquity to the present. Surely those who deny that in the midst of universal progress, medicine has not advanced in proportion with other sciences, have studied its history to very little purpose.

Though there is very little doubt that the origin of medicine sprung from the natural wants and necessities of man, still the most ancient account of authenticity, is from the writings of Moses, who tells us that Joseph commanded the physicians to embalm Jacob, 1700 years before the birth of Christ.

But even before this time, the arts and sciences had attained great perfection in Egypt, and which only could have been acquired by centuries of the accumulated wisdom and experiences of her wise observers.

The laws of Moses regulating the public and private hygiene of his people, are well worth imitating even at the present day, and though apparently drawn from the customs of the Egyptians, were really the commands of God himself.

The salutary rules and regulations there promulgated, in their sanitary relations with each other, in the minutest detail, the separation of those who were diseased were made matters of religious duty, and could scarcely be improved upon by any writer of the present day on sanitary science, and shows that hygienic laws governing the health of individuals and communities, were of divine origin.

Later on in the history of the world, we have King Solomon, who, we are told, surpassed all men in his time, and before it, in wisdom and knowledge. Josephus, as well as biblical history, tells us of his wondrous knowledge of all things in nature. He not only knew the name of all plants in the vegetable kingdom, from the cedar of Lebanon to the hyssop that springeth from the wall, but he was familiar with their medicinal virtues, and the compounding of remedies in disease.

It is not likely he drew his learning from books or scientific treatises on these subjects, or that he acquired his information from experience, it was a divine gift, from God to man. In other words, it is probable, yes, almost certain, that many articles of our present *Materia Medica*, daily prescribed by physicians, were made known to man by the great Giver of all good things.

“The Most High has created medicine out of the earth, and he that is wise will not abhor them.”

It was not, however, until the philosophic period in the history of medicine, when the great and original Hippocrates came upon the stage, that therapeutics began to assume that important position in the healing art, that it was destined to take in the future history of the science.

No writer before him has given such a systematic treatise on the subject connected with medicine in that day. Many of his views are even accepted and quoted at the present time. He had, though, no special knowledge of anatomy, and had, probably, never dissected the human body: the prejudice existing in his day which made it unlawful to touch a dead body, was not obliterated until long after his time, consequently he knew little or nothing of physiology. Nevertheless, he had a fair idea of the osseous system, but the muscles which were termed flesh and the tendons, ligaments, &c., were only thought to serve the purpose of covering and giving motion to the body. It was believed that the arteries contained air and the veins blood.

He wrote treatises on air, water, locations and knew much about climatic and topographical influences on the human constitution.

His knowledge of hygiene and therapeutics were the results of experience and observation, and though he left works on fractures and luxations, and their method of reduction, and on wounds of the head and other parts of the body, and the manner of treating them, he threw very little light on the advancement of surgery in that epoch. The great and universal esteem in which the father of medicine was held by his contemporaries, was due as well to his virtues as his genius; he seemed to be actuated not by a desire for reputation, and the powers of society; but by the exalted idea of doing good to his fellow-man, by teaching them the laws of health, and curing their diseases. It was not, however, until the beginning of the fourteenth century, that a ray of light began to pierce the darkness of anatomical research, through the boldness of a Bologna professor in dissecting the bodies of two persons, from which he made illustrated drawings that served for two hundred years the purpose of demonstration. Though it was a century later before any one dared to imitate the bold professor in consequence of the still existing prejudice against human dissection.

But towards the close of the fifteenth century, these prejudices began to subside, and as the Popes who were the patrons and promoters of scientific progress in the arts and sciences, withdrew their objections, public dissections began to be common in Italy and many other places. Among the enthusiastic students of this branch that the withdrawal of these restrictions produced, stands forward preëminently the great Vesalius, whom we all delight in honoring, as the founder of modern human anatomy.

About this time physicians began to observe the effects of organic disease, as shown after death, which rendered them valuable aid in their diagnosis, and was, we may say, the foundation of pathological anatomy, and established the boundary line between ancient and modern medicine.

It appears somewhat remarkable though, that surgical therapeutics should have remained in so feeble a state of advancement for fifteen hundred years after the Christian era, and that only a little over three hundred years ago, Paré substituted the ligature for boiling oil in amputation. But if medicinal and surgical therapeutics have toiled thus slowly along to reach this point on the highway of human knowledge, it has more than made amends in the rapid strides since that time, and particularly in the past century, and culminating in that enlightened physiological therapeutics, it is our good fortune to enjoy at the present day.

We have now arrived at a time of precision in medicine, it might be termed the learned period, though, doubtless, as Flint says, we are yet merely on the threshold of our physiological investigations in many of the hidden laws of life. There has been no period in the history of medicine, when so much has been done. So much aid rendered by existing physiology, to modern medical therapeutics. Modern physiological chemistry has, perhaps, contributed more largely than any other department of human science in advancing our knowledge of the more important phenomena of life. To it are we indebted for what we know of the air we breathe, the water we drink, the methods of digestion and absorption and nutrition of the body; and with the help of the microscope, practical medicine took a long step in a medico-legal direction.

For by its assistance the human blood may be distinguished from that of the lower animals, and even the blood stains upon clothing

or a floor of years duration may be determined with a perfect certainty.

It is in sanitary medicine, however, that has for its object the prevention of disease, and the stamping out of devastating epidemics, that the minds of medical men are now to a great extent occupied. State Boards of Health are being formed in many of the States to carry out by scientific methods, these objects, and even the general government has become interested in the matter, and has passed a national health law by the advice of medical men in the interest of the people. The study of public and private hygiene is zealously occupying the minds of many of the best men in Europe and America, and if the laborious efforts of our professional workers, receive that encouragement from those in power in the government, that the magnitude of the subject demands, it will mark this era as the time when the most important movement for the good of mankind was ever made in the history of medicine.

From the terrible epidemic of yellow fever that visited the South-western portion of our country last season, extending from the Gulf to the latitude of Memphis and beyond, many valuable lessons may be drawn. The previous known habits and movements of the disease seemed to have been utterly ignored in this last visitation.

Little is known of its etiology, unfortunately medical men differ in regard to its origin, the weight, however, of authority is with the importation theory.

I have no doubt the disease is of exotic growth, though receiving in each place of visitation its peculiar characteristics from local causes.

Thus, in New Orleans the disease seemed to be genuine yellow fever, whereas in Grenada and Memphis the impression made upon it by local influences, gave it more the form of a plague.

Dr. Belot, of Havana,* perhaps, as good authority as we have, thinks the disease is totius substantiæ, produced by miasmatic poison, sui generis, the antidote of which is unknown, the only medical treatment being that of the symptoms; and the febrile orgasm nothing more than the energetic reaction to eliminate the poison.

*North Carolina Medical Journal, January, February, March, April, 1879.

The appointment of a medical commission to visit Havana and study the disease where it is endemic, is a step in the right direction, and much valuable information is looked for from this source.

It is in State preventive medicine that we may look forward to a mitigation of the evils of those merciless and depopulating epidemics, that visit us from time to time, and overwhelm us with their awful mortality.

The question of the management of sewage in our large cities is one of prime importance to our people. From the sewage contamination of drinking water arises many if not most of the causes of endemic diseases. Life is poisoned at its fountains. Though the minds of our public councils have not yet learned to heed the warnings of sanitary and medico-legal science, it is speedily being discovered that the harbors and rivers are not the proper receptacle of city sewers.

Here modern chemistry comes to our aid, and shows not only how the contents of sewers may be rendered inodorous, but innocuous, and converted into saleable compounds of the highest utility to the agriculturist.

Though we may consider ourselves merely in our infancy yet, in regard to State Medicine, still the impetus already given the subject, will, undoubtedly, lead in the near future to great developments of practical utility to the public and private health of our people.

In our recent advances in medical and surgical therapeutics, no time in the history of medicine has such progress been made; the means of diagnosis and prognosis have wonderfully improved in the invention of such instruments of precision as the thermometer, ophthalmoscope, laryngoscope, sphygmograph, and others.

In the sphygmograph we have an instrument destined to render valuable aid in the study of diseases now involved in much obscurity, it serves as a test of the progress of acute disease, and shows changes that take place in the human system in health or otherwise of the circulatory, nervous or muscular. In acute disease the vibrations and irregularities of the pulse as shown in the tracings by this valuable instrument, informs the physician of what he may expect, long before it can be ascertained by any other means.

Also by its aid the action of stimulants and the physiological effect of different medicines upon the circulation may be studied

clinically, in the quickest manner without annoying the patient. The possibilities for this instrument for good is great, and will, no doubt, aid materially in illuminating some of the obscure questions in medical science.

We have, also, in the telephone, "though in no respect a medical instrument," a serviceable method of communicating with our patients. Only a short time since a professional friend informed me in Wilmington, that it was of very great convenience to him in conversing with the attendant of a patient he had visited the previous day on one of the lines of railway some miles from the city.

Perhaps modern medicine is entitled in its rapid advance to no greater éclat, than for the progress made in the skillful reduction of deformities.

In orthopædic surgery a long felt want has been supplied, and though the method of procedure is simple in principle, the improvement is more the less useful, and has given imperishable fame to the author.

The name of Sayre will be for all future time connected with the greatest advance made in the history of orthopædic surgical therapeutics, in our day and generation.

Sir James Paget remarked that through the zeal of Professor Sayre to advance a noble profession, he had accomplished that, by which the suffering of the hunchback of to-day were ended, and had blotted out the deformity for future generations.

Next in importance to the advances just mentioned as having been made in modern medicine, is what is termed the antiseptic method of treating wounds.

In regard to this system reference is had particularly to Mr. Lister's antiseptic treatment with carbolic acid, which I must believe is the most valuable contribution to surgical therapeutics surgery has ever known. It is true, this treatment is not altogether endorsed by some surgeons, either in this country or in Europe. Both Mr. Ashhurst here, and Mr. Bryant in London, appear both skeptical in their recent works on surgery, of the alleged superiority of the antiseptic method.

They grant the practice should have a fair trial and be honestly tested, but the latter regrets that the distinguished Professor of King's College Hospital has not published the results of his practice as a whole.

Professor Ashhurst regards the antiseptic catgut ligature as quite safe for ligature of arteries in their continuity, but not so good for wounded arteries, or those divided in amputation, as the ordinary silk ligature, as it disappears without dividing the external coat of the artery, and thus does not securely occlude the vessel.

Mr. Bryant, however, prefers it as safer than silk, as it does not require an ulcerative process for its discharge.

These authors, it would seem, have no faith in the germ theory of the production of pyæmiæ and kindred diseases.

Notwithstanding the views of the eminent surgeons just named, I must say that my experience does not fully accord with theirs.

I have used the antiseptic method both in my private and hospital practice with the greatest success, and regard it as only second to chloroform in its value to the surgeon.

Without it, I should feel that I had been deprived of the most valuable adjunct to my success as a surgeon. For the last four years I have used it in our U. S. Marine and City Hospital in every case of injury I have had to treat, and many of my amputations have healed under its use by the first intention, or with a minimum of pus formation.

As sustaining my view of this invaluable agent, I have noticed in a late number of the *American Journal of Medical Sciences*, a number of cases treated by Lister's method in St. Mary's Hospital, Philadelphia, by Dr. Ewing, and the results were, that the absence of fever, erysipelas and pyæmia were marked, the effect too being to produce by means of the spray a healthy and cleanly condition of the wards generally.

In gynæcology also, has this method, perhaps, yielded better results than in any other department of practical medicine. Professor Emmett in remarking upon it says, the surgeon is relieved of most of his anxiety in gynæcological surgery by means of the antiseptic dressing.

Our medicinal therapeutics too, guided by an advancing physiology, is constantly adding to our list, remedies of value in the treatment of disease. Acute articular rheumatism is almost deprived of its terrors by the specific action, we might say, of the salicylate of soda.

Opium poisoning quickly relieved by the energetic action of apomorphia and atropine, hypodermically administered. The

waning powers of nature in post partum hemorrhage taking on a renewed vitality by the transfusion of blood, as well also as the increased curative effect given to old ulcerations by the same process.

In hydrophobia, that terrible and incurable malady, the inhalation of oxygen has been found greatly to relieve the cyanosis and spasm, and in connection with the subcutaneous injection of woorara and the free incision of the parts, much more success has been attained in the treatment of this frightful disease than formerly.

In Jaborandi, the physician as an almost certain diaphoretic and in pilocarpin its active principle probably a valuable adjunct to our therapeutic armamentarium is acquired.

The gelsemium too, with its beautiful flowers and delightful perfume, making redolent the forest air of the Southeastern portion of our State with its fragrance, is a most useful addition to the *Materia Medica*.

Besides its qualities as an arterial sedative, it is a certain anti-periodic in our malarial fevers. Thereby seeming to carry out the idea entertained by many, that where certain diseases prevail, nature has given us in the vegetable kingdom near at hand, a corresponding antidote.

The application of electricity, though still sub judice, both as a medical and surgical therapeutic agent, is probably destined in the not far distant future to render invaluable aid to the surgeon and physician.

Many are the other remedies and means which the modern advances in medicine have placed at the disposal of the medical men to subdue disease, and ameliorate the condition of mankind.

The practice of medicine of to-day is no longer subservient to ancient authority, however respectable and eminent, but based upon the sound therapeutics of an enlightened and advancing physiology.

Inflammation is no longer regarded as a disease, a *materies morbi* entrenched in the human system and requiring the aid of the old antiphlogistic batteries to dislodge, but rather a process of repair, a physiological action so to speak. By its influence a fractured bone is repaired, in pneumonia some obscure injury is received, and this process is brought into action to repair the lesion. In its efforts to bring about reparation, inflammation frequently becomes too energetic, and needs the interference of the physician, and right here,

all the good sense and judgment of the attendant is brought into requisition, to aid the efforts of nature in conducting the case to a successful issue.

The indications are to use such remedies as will lower the temperature and reduce vascular excitement. To accomplish the former, purgatives and saline preparations having a diaphoretic and cooling effect would be indicated; in the latter, those agents which have a tendency to produce dilatation of the blood vessels, thereby relieving the blood tension on the inflamed parts. Such we have in venesection, antimony, chloral, aconite, veratrum, &c., and the external application of poultices, and cold and warm water. Various antipyretic agents for reducing body heat have been in vogue from time to time, according to the advances in physiology, and as fashion would dictate—for we have fashion in medicine as well as in other things. Among the most effective means of lowering the heart's action, and reducing the temperature, none is more cogent than venesection, a practice now almost obsolete, mainly on account of its abuse.

The mistake our predecessors committed in blood-letting, and which brought the practice into disrepute, was too large bleedings at the beginning, and the repetition of the act to meet subsequent risings of the temperature, instead of following up the initial act by heart depressants and antipyretic remedies.

Professor Flint has been making some very interesting investigations recently, concerning the sources of animal heat, and he thinks there is little doubt but that water is formed in the body by the oxidation of hydrogen, and heat thereby evolved, and regards alcohol as a powerful therapeutic agent in preventing tissue waste in fevers, by supplying materials for formation of heat, and, perhaps, in animal heat the oxidation of carbon and hydrogen is a more important factor in colorification, than the oxidation of nitrogen. And if excessive heat is thus produced why may not the exhaustion and emaciation consequent upon the progress of fever be more or less modified by supplying the system with the hydrocarbons, in the form of fatty and starchy matter, sugar and alcohol, until the fever is subdued, than in the exhibition of highly nitrogenized food in form of beef essence and similar articles.

This view of the subject would seem somewhat to militate against

those advocates of the butcher shop and chicken coop, who consider the latter treatment as a *sine qua non* in all acute internal inflammation.

I will not, my friends, trespass further upon your time and patience, I am sure none of you can feel as I do, how feebly and inadequately I have performed the duty assigned me by your partiality.

I could go on and extend my remarks upon the connection and value of advancing philosophic enquiry with practical medicine, but time forbids.

I will say, however, that experience and observation have taught me not be excessive in my therapeutics; in other words, not to kill my patients with drugs; but trust more to the *vis medicatrix naturæ*, and not to be in too great haste to interfere with every abnormal departure from health, for there is always a corresponding effort on the part of nature to right itself.

The powers of systemic resistance to ill-timed medication is wonderful, if it were not so, many would be the victims of the charlatan and quack, and even of the misapplied efforts of the intelligent physician himself.

In conclusion, I would say a few words to the younger members of our profession.

Young men upon the threshold of professional life are frequently deterred from making proper and determined efforts to obtain reputation in their calling, from an innate consciousness that they do not have that genius or talent that gives their possessor notoriety.

They should reflect that what men most need, is not so much these qualities, as they do a resolute purpose. Industry, after all, is the lever of success. Untiring labor will frequently accomplish more than misapplied genius or talent, not that running here and there after many objects; but that industrious pursuit of the object in view with steady purpose.

Economy, prudence and self-denial will bring its reward. A man with moderate ability and well applied industry, will frequently attain the success that is denied the shining genius.

It is not wise either, to put too low an estimate on one's work, every one has a mission to perform in this life, and none are without their influence. The better that mission is performed, and the

greater the influence for good, the more has he accomplished for the benefit of himself and others in the world's great drama of life.

The possession of self-confidence is very necessary in carrying out zealously the various enterprizes of our career.

No man ever achieved anything, not in the arts and sciences or in any field of labor, unless he possessed that innate consciousness of his ability to succeed.

To cheerfulness and contentedness in that station of life in which an all wise providence has placed us, must we all look for that aid and comfort so requisite in sustaining us through all the pleasures and trials of life.

USE AND ABUSE OF ALCOHOL.

Abstract of an Address delivered before the Medical Society of North Carolina, at Greensborough, N. C., May 22, 1879,

By J. F. LONG, M. D., Newbern, N. C.

* * * * * It is not my purpose, Gentlemen, to make you a temperance speech on this occasion ; nor would I worry your patience or insult your good taste by *attempting*, even an *elaborate* essay upon the physiological effects of alcohol on the system ; but impressed with the startling fact that, despite the fierce battlings of total societies, the persistent work of temperance erusades, the noble efforts of the church, the influence of gospel ministers and the gentle persuasions of relatives and friends ; the vice of intemperance is rapidly on the increase, and a tidal wave of drunkenness many degrees higher than that of the preceding years is sweeping over the land, drenching the homes of high and low, drawing out tender influences, blighting brilliant promises, nipping cherished hopes, fostering evil agencies, killing religion, blasting the prospects of the country, breaking hearts, making widows, creating orphans, filling poor houses, crowding penitentiaries, feeding the gallows, depopulating heaven, peopling hell, flooding the river of tears and echoing the wail of hearts that are broken and souls that are

damned. I am driven to ask myself the question, for how much of this are you professionally responsible? In how many of these cases is your alcoholic prescription—needlessly and lightly given, and where other remedies would do as well—the spark that kindles the latent magazine? In how many of these cases is your advice, thoughtlessly rendered, but carrying with it the weight of authority and influence, the knife in the hands of the child that severs the withes of the giant and sends him forth to tear, ravage and destroy? How much does the modern, popular and fashionable system of administering whiskey and other alcoholic stimulants in disease, and freely advising its use as a medicinal agent, contribute to crowding this weird, funeral car that is bearing its load of unhappy voyagers with the speed of time down to a moral and physical *Hades*? How many do we under a mistaken sense of duty and scientific requirement continually thrust under the crushing wheels of this ponderous Juggernaut, victims to a modern professional Vishnu? How many do we, with our liquor treatment, unthinkingly fling into that turbid, rushing stream that is ever *flowing, flowing*, and that empties at last into the ocean of death and dishonor? Or, how many do we with the scratch of a pen or a moment's counsel consign to lives of disgrace and early graves, on whose certificates of death should be written *Similia Similibus curantur*? In other words, gentlemen, in advising the protracted use of alcoholic stimulants indiscriminately and loosely, or under any circumstances without a due regard to the antecedent and present habits of our patient, his inherited proclivities and constitutional weaknesses, and without a cautious inquiry into his family history, are we not acting in the interests of disease through its specific poisoning of the system, at the expense of organic structure, and the risk of making drunkards where we would make cures? In thus recklessly prescribing it, are we not incurring the danger of inaugurating or *reviving* an overmastering habit, in whose deadly clutch its victims can but writhe as in the folds of a laocoön from which few, if any, are ever rescued? Does the one solitary virtue that it possesses, its stimulant property, warrant our general professional use of it in the face of its terrible sequences and surroundings, and will God and our own consciences hold us acquitted for thus intelligently and deliberately perpetuating moral and physical ruin? These are the

questions, gentlemen, that have forced themselves, uninvited upon my attention, and if their brief analysis and discussion result in no other good than the production of an increased caution in handling a useful but dangerous remedy, I shall feel that the moments have not been wasted, and shall therewith rest content.

“Many distinguished physicians and physiologists now boldly affirm that alcohol does not pass through the ordinary processes of digestion, but, like water, is quickly absorbed by the veins of the stomach, and this finds its way into the general circulation; that it is directly antagonistic to digestion, and if ever of any advantage to the system when taken in moderation, it must first act through the blood upon the brain and nerves, and then by reflex action upon digestion.”

The experiments of Dr. Bocker confirmed by Virchow, prove uncontestably that alcohol poisons the blood, that it arrests the development and hastens the decay of the red corpuscles, and the former gentlemen has noticed also a loss of vitality in the colored disks which manifests itself by the formation on them of black oil specks and their conversion into round pale globules. This condition, corroborated also by Lallemand and Lecanu, distinguished French analytic chemists, is fatty degeneration of the blood, which lays the foundation of fatty degeneration of all the tissues in every organ of the body, and the basis according to Dr. T. K. Chambers, of three-fourths of the diseases that medical men are called upon to treat. Dr. Aitken in his *Practice of Medicine* states that the first effect of alcohol when taken into the stomach is to coagulate every albuminous article of food or fluid with which it comes in contact, and as an irritant stimulating the secretion of the gastric membrane, to lead ultimately to thickening of that delicate tissue.

Dr. Lankester, F. R. S., in his “*School Manual of Health*,” observes that even diluted in the form of beer or wine, alcohol acts injuriously upon the delicate membrane of the stomach and other organs of digestion, and when taken in larger quantities of either of the dilute forms the *same* injurious effects are manifested, not only upon the stomach and liver, but upon the heart and brain, the liver and brain, however, being, according to Lalliman and Perin, the organs most susceptible of its evil influences; while the results of Dr. Carpenter’s investigations, concurred in to a great extent by

Liebig, shows that it irritates and corrugates living tissues, thereby interfering with capillary processes, and retarding and stagnating the circulation of the blood, which leads to inflammatory action and even gangrene. That it coagulates albumen and impairs the solidifiability of fibrin, consequently striking at the very root of assimilation and nutrition. That it causes a shrinking of the red corpuscles and a mingling of their contents with the liquor sanguinis, thereby seriously affecting aeration and the proper elaboration of organizable plasma, and that nervous, organic, circulatory and mental diseases are the direct result of its moderately protracted use. But the saddest part of his testimony is to the effects that not only are cachectic diseases, mental weaknesses, imbecility and proneness to insanity directly transmitted to the progeny of those who thus use it; but a morbid constitutional craving for and love of the dangerous drug are engendered in them which render their lives but one long, continued struggle for the mastery; and I do say, gentlemen, if there ever could exist an offense of sufficient magnitude to justify a child in cursing the memory of his dead father, and in being utterly thankless for the gift of a painful existence thus unsolicitedly thrust upon him, it would be this inheritance of woe and sorrow, this enemy implanted in his very citadel, this *circe* in his bosom with whose syren songs, more formidable than those which lured Ulysses to his ruin, he is hourly and daily battling for the simple boon of a *sober life*, much more that of a gentlemen, a successful man and a Christian.

That alcohol in any form or under any circumstances, is imbibed at the expense of organic structure, and that its stimulant affect is procured by increasing the destructive process, is most beautifully illustrated by Herbert Spencer in his graphic analysis of its physiological phenomena. When an agent, says he, capable of so changing the molecular state of nerve motion as to arrest its function is taken into the circulation, it first acts on the nerve corpuscles. Each change produced in each one of these, whether of decomposition or isomeric transformation, implies a disengagement of molecular motion or a disturbance of molecular quiet that is immediately propagated along the connective nerve fibres and irritates the centre to which they run. Every nerve corpuscle being thus quickly acted upon, and emitting successive discharges as each suc-

cessive molecular decomposition or transformation is wrought upon it, there results a general exaltation state, which shows itself physically by the invigorated pulse and increased muscular contraction, and psychically by the rush of vivid ideas and intensified feelings.

Hence, while I do not propose to deny to alcohol its true remedial virtues, it is evident to every well studied mind that its effects are but temporary; that its therapeutic area may be narrowed down to a very small point, and that those conditions in which the medical man may dare to prescribe it without rendering himself amenable to God and humanity for wrecked lives, ruined souls, broken down constitutions and other sequelæ of intemperate habits, may be stated in propositions of but limited numbers, and indicated in phrases of very few words. In his great prize essay upon this subject, Dr. Carpenter, F. R. S., has very hurriedly, yet briefly solved the important problem, and mapped out the line of duty for every practitioner who, while treating existing diseases in his patient has an eye, *honestly* to possible complications of which he, *himself*, may become the author, or who, while guiding his patient past the Scylla of present suffering is very solicitous not to plunge him into the Charybdis of future and more formidable and fatal trouble.

In two words he has surveyed the ground, defined the limits and cast up the sum of alcohol's therapeutic value, and in two words, *shock* and *prostration*, or those manifold and varied conditions in which, through a failure of the heart power, feebleness of its contractions, diminution of its impulse and partial or total absence of its first sounds, there are threatenings of a breaking down of the vital forces rendering dissolution imminent and an immediate reâction necessary, alcohol, through the peculiar phenomena so beautifully described by Herbert Spencer, indicated as not only a very valuable agent, but as probably, *in these instances only*, the most important of our diffusible stimuli.

It is totally irrelevant to the subject in hand, and I will not trespass upon your time and patience, gentlemen, by enumerating these conditions. You are all familiar with them, and from the ordinary cold shock up to the great prostration produced by the ingestion of an animal or vegetable poison, every practitioner in the land has, at some period in his professional career, an opportunity of contending with them. They are neither so plentiful as to immoderately tax the memory, so complicated as to be unrecognizable,

nor so obscure as to cause a mistake, but plain and perspicuous, they are so clear that he who runs may read, and none need be deceived in them; but he who is willfully blind to the truth, or who is carried away by vain and illusory systems whose only title to consideration is the polish of a *new* theory, or the charm of a *modern* idea.

But even in *these* emergencies, and, as it were, in the very presence of death itself, the great pathologist rings the changes upon the dangers of indiscriminately administering this stimulant, and with the pale guest, seemingly, already in the bed chamber, cries out his caution and bids the medical man beware and remember, that reactionary excitement just as surely follows upon primary depression as that depression is subsequent to primary excitement, and if alcohol has been hastily or injudiciously given the excitement will be all the more difficult to control; especially, says he, if the brain be involved in the shock, alcohol having a determinate tendency to that organ. Furthermore, he continues, when alcoholic stimulants are employed for these purposes—that is, in the condition to which I have just referred—the utmost care and watchfulness should be observed, both to avoid the doing positive mischief by an overdose or a longer continuance than is necessary, and the bringing the system into a habit of dependence upon them, thereby predisposing it to all the evils of their excessive use and all the horrors that follow in the line of confirmed intemperance and drunkenness; for there is no doubt, says he, that a course of fatal over-indulgence in alcoholic drinks is very often superinduced by the therapeutic use of them. But it is in chronic diseases, and its protracted use in the acute forms that he is loudest in his condemnation. I believe, says he, that but little, if *any* benefit can be expected from the administration of alcohol in chronic diseases, at least, in so far as regards its specific agency upon the heart and nervous system. That its assumed tonic properties are not only entirely *without* adequate proof, but manifestation with another name of its stimulant effect, and that the seeming advantages of nutrition and flesh making, accruing through its irritant action upon the digestive function is as evidently fallacious as that we see in the *increased* flame of a lamp just after the raising of the wick when there is a deficiency of oil; provided, not by the reanimation of dormant power, but by the more rapid consumption of the little

stock of power left; and it is my belief, continues he, confirmed by late experience, that the *vis medicatrix* of the system *instead of* alcohol, is the great agent for improvement or reviving in these cases when time is given for its operation, and other circumstances combine to favor it.

Finally, says he, inasmuch as even the moderately protracted use of alcohol is so injurious to health, inasmuch as its so-called tonic properties are so utterly fallacious and delusive, and inasmuch as its stimulant virtues may be obtained through other remedies, it is very desirable in the treatment of chronic diseases, and in the prolonged demand for stimuli in acute troubles, that its administration be *avoided altogether*.

Professor Ringer testifies that beneficial as alcohol is, it may do harm as well as good, and that although the heart is the best criterion of its action, its influence over other organs should not be overlooked; inasmuch as it may happen that while it is benefiting one it is injuring another and while it is doing good in one sense, it is inflicting incalculable harm in another; and Dr. Watson, F. R. S., in advising against its employment in delirium tremens, gives it as his opinion founded upon a practice of more than a quarter of a century, that those who recover from attacks of this disease through the agency of alcohol, never abandon it, but on the contrary, return to its excessive use and are ultimately destroyed by it.

In 1875, Prof. Hitchcock, President of the Michigan State Board of Health, issued 200 hundred circulars to the most distinguished physicians of his own State and the same number to the most eminent practitioners of other States, propounding six different queries relative to the sequential history of alcohol as exhibited in their individual experiences. To the question, in that degree, does alcohol shorten the lives of its victims, the answer was—an average of 28 per cent.

To the question, in what degree can inherited disease be traced directly or remotely to alcohol, the answer was an average of 21 per cent.

To the question, what forms of disease are traceable directly or remotely to alcohol, the answer was—all diseases involving the brain and nervous system—inflammation, apoplexy, paralysis, mental imbecility and insanity—all organic diseases having their foundation in fatty degeneration, a few skin diseases, gout and rheumatism.

To the question, in what per centage of the inmates of your asylum can insanity or epilepsy be traced to alcohol, the answer was from 6 to 20 per cent.

To the question, in what percentage can inherited mental degeneracy be traced to the use of alcohol by parents or ancestors, the answer was from—20 to 30 per cent—and in 24,789 cases collected from fourteen of the principal asylums in the United States, the answer was ever the same, sad, gloomy, but confirmatory one.

It is thus established beyond a peradventure, and upon the most distinguished and reliable authority that, as a poisonous agent, alcohol should be prescribed with the greatest limitation and administered with the most consummate caution. That its only remedial excellency is obtained through the decomposition or transformation of organic tissue and arrested function, and that its protracted use, even in moderation, causes fatty degeneration and other organic diseases whose enumeration it is foreign to my purpose to attempt.

And yet, in the face of all of this thorough analysis, this minute investigation and this close and exhaustive study, such men as Letherby, Parkes, Thudichum, Edward Smith and others, highly enlightened, thoroughly cultivated and gentlemen of the largest and most extended experience, still persist in investing it with some fallacious agency as a tonic in debility, some erroneous characteristic as an invigorator in indigestion, some false property as a nutrient and flesh-maker in convalescence and chronic decadence, and some mistaken virtue in diseases consequent upon its excessive use.

Notwithstanding the black records of disease and death which the reports of hospitals, infirmaries, sanitary committees and boards of health are continually rolling up, and notwithstanding such distinguished scientists as Carpenter, Boeker, Chambers, Aitken, Ringer and Lankester have defined its limits, pointed out its dangers, and narrowed down its therapeutic uses to the varied conditions that arise under the generic heads of "Shock and Prostration," restless and ambitious theorizers, more eager for the ephemeral notoriety consequent upon the propagation of a new system than the welfare of their patients, are flooding the land with their pernicious teachings and false theories; and their disciples, faithful to the instructions they derive from these poisonous propaganda, indiscrim-

inately administer alcohol in acute and chronic diseases, and prescribe it with all of the reckless freedom with which they would handle the most innocent and innocuous drug that the pharmacopœia affords.

I wish it distinctly understood, gentlemen, that it is not the judicious, rational, legitimate use of alcohol that I am condemning, but its *abuse*. It is not that I would sweep it from the list of remedial agents and deny its efficacy altogether, but that I would call your attention to the dangers of its *irrational, injudicious, reckless, administration*. As a stimulant to the heart and nervous system in all of these emergencies where an immediate reaction is demanded, and in the language of Dr. Carpenter, where it is necessary to keep the patient alive until his vital forces can rally from the prostration under which they are laboring and more curative remedies be adopted, alcohol has probably no superior throughout the entire pharmacopœia. This is the verdict, founded upon analysis and experience, of many of the most distinguished physicians physiologists and chemists of modern times; but those who, imparting to it a wider field of action, and claiming for it a more extended sphere of remedial excellence, advise its general and protracted use, not only attach to it properties which it does not possess, but lay the foundation and build up the structure of that long line of fatal organic diseases that inevitably follow in the footsteps of its illegitimate employment.

But its physical evils are the very least of all the unhappy sequences of this tampering with alcohol as a medical agent, and they fade into utter insignificance by the side of that greater and more terrible result, the habit of dependence upon it is a daily beverage and from which to a life of moral degradation and ruin, the transition is but a step.

Ah, gentlemen! could we but lift the veil that indulgent time kindly and leniently casts over the records of our professional transactions: could we but peer into the granary of the ages where are garnered the harvestings from so many professional plantings, or roll away the stone from the sepulchre of the buried years where lie entombed so many sad and unfortunate mistakes, I fear we would start back in horror and affright; and as the accumulated debt of fatal responsibilities loomed up before us and as the accusing voice

of conscience with its unmistakable meaning, propounded to us the question, Where is thy brother ? our souls would be filled with dismay and silence, and the seeds of remorse and sorrow be implanted in our breasts forever.

In all the flush of his youth and strength, and in the beauty of his budding manhood, with his future spreading out before him like a flowery panorama of promise and hope, the pride of his mother, the ambition of his father, and the love, it may be, of a gentle maiden, the intoxicating cup having never been pressed to his lips, knowing not its taste, having never felt the influence of the charmer, charm it ever so sweetly and subtilely, and in total ignorance of the giant that is slumbering in his bosom ; in the matured prime of his middle life while its wine is still sweet and its flowers yet fragrant, or in the freshness and vigor of his green old age slightly impaired by former excesses, but nevertheless full of the cheerfulness and joy of renewed hope and expectation consequent upon reformed and altered habits, he consults us at our office or he calls us to his bed-side where disease has laid its heavy hand upon him.

Fancying that some peculiarity in his case demands it ; wishing to pander to a morbid, yet dormant appetite ; meeting with some complicating, obscuring element that defies an immediate diagnosis, or perverted by some visionary monograph abounding in incorrect statements and false conclusions : On the same principle that a fashionable Parisian doctor prescribes gold for his lady patient, as a placebo and to render ourselves popular, as a scape-goat behind which to hide our own ignorance, to achieve a little fleeting reputation as a man of progress and a keeper up with the times, or totally indifferent to the cruelty we are perpetuating and utterly thoughtless of the terrible results that may follow, we prescribe alcohol in some one of its many alluring and fascinating compositions. And yet the magazine is there, latent though it be, charged to the very brim with all the elements of destruction and death ; the dormant taste is also there needing but an appetizer to arouse all of its quiescent action ; the giant lies bound and slumbering in the bosom, and the poisonous viper coiled in momentary apathy, awaits but a little dallying and caressing to revive and animate all of its native instincts.

A modern Prometheus, we literally steal the fire of heaven, but

alas ! instead of creating a new life, we destroy that which already has an existence ; we re-ignite the smouldering appetite which grows insidiously step by step, little by little until it becomes a vast, raging, irresistible sea of constitutional demand ; we sever the withes of the giant, the reptile delivers its deadly sting, and the young man whose future was so brilliant, whose life-flowers were so beautiful and fragrant, and in whom was garnered so many fond expectations of loved ones, goes out from under the hands of the doctor or the monotonous life of his sick chamber a confirmed drunkard and soon lies in the gutter a fallen star and a human wreck. Babylon in ruins, says an ancient author, is not so sad a sight as a human mind overthrown by lunacy ; but a sadder sight yet, gentlemen, is the one that I am endeavoring, faintly to depict in your presence. His comeliness and beauty have departed, his well-rounded, lithe, muscular figure has become bloated, mis-shapen and enervated, his eyes that once beamed with the fascination and charm of intellect and soul have become blood-shot, stark and lustreless, his graceful carriage that elicited the admiration of one sex and the envy of another has degenerated into the shambling gait and uncertain movement of the constant drinker, his faculties are blunted, his self-respect is gone, the slime of the rum-mill and the odor of whiskey cling to him, and there is just enough left of decency of apparel, intellectual gleamings and physical beauty to mark the greatness of the ruin and give a faint perception of what the original in his prime and glory *was*. The sanguine expectations of friends are all disappointed, a mother's heart is broken, a father hides his dishonored head in a premature grave, a sister weeps over a shattered idol, a wife is driven to starvation, children to beggary and ignorance, and through it all, the victim of a single prescription, or the protracted use, as a remedial agent, of alcohol in one attack of sickness, stumbles onward with but one purpose in life, the quenching of the raging thirst for alcoholic drink that is consuming him, until the Potter's field takes him up, or he renders that last, sad, though involuntary tribute to his race when his poor, bloated, disfigured carcass finds its way into a dissecting room and science and humanity get the benefit of his anatomy. The middle-aged man returns like a hog to his wallowing in the mire ; the old man having made his last, fruitless effort at sobriety falls back into

hopeless inebriacy, and still the professional juggernaut, moving onwards with its everlasting thunders, pauses not a moment to pity, to spare or to look aside, but rushes forward forever. Impassive as the marble in the quarry it cares not for whom nor for how many it destroys, nor for the results, direct or indirect, many or few, of its destructions. Ever increasing in horror and magnitude, the more it multiplies its victims the more surely and effectually it conceals them ; and for the same reason that in an ancient Roman Amphitheatre when it grew to the magnitude of a great city, births and deaths which were common incidents attracted no attention, these multiplied tragedies are unnoticed ; and because they neither gratify curiosity nor furnish food for sensation, they are utterly disregarded and passed by as unworthy of either attention or sympathy.

Like the Cretan Minotaur, the veiled prophet of Khorassan or the pitiless Persian Zohauk, its deadly contributions are all the more surely livid that they are made under the brilliant covering of unfulfilled promises and the false hope of profit and advantage. Like the thorn in the bud of the rose, its sting is all the more painful and certain that it is concealed under the velvety softness of hypocrisy and deceit and the fragrance of odors that are alluring ; or like the viper that is cherished in the bosom of confidence, its bite is all the more positive, and deadly that it is totally unexpected and given to the hand that caresses it.

Because the results of our injudicious, thoughtless practices do not continually stare us in the face ; because not one of them, it may be, is ever brought under our immediate notice ; because the poor-house, the house of correction, the Maison de Santé the penitentiary and the grave very kindly and leniently hide them from our view ; and because there are no newspaper advertisements or suits at law for malpractice, let us not lay the flattering unction to our souls that we are innocent, that those things are all myths, or that they are distorted images of an over-excited imagination ; and because we have succeeded in hiding from public notice behind the sophisms of false theories, professional irresponsibilities and scientific exigencies, let us not fancy, like an ostrich with his head in a hole, that the all-seeing eyes of our consciences, ever alive and sensitive to the least willful commission of wrong, will not find us out and lash us and torture us and condemn us.

In the vast halls of human frailty there are separate and gloomy chambers of a frailty still more exquisite and consummate. We account it frailty that three score years and ten make up the sum total of man's pleasurable existence and that before that time has been reached his beauty and his power have fallen among weeds and forgetfulness ; but there *is* a frailty by comparison with which this ordinary flux of the human race seems to have a vast duration. Cases there are, and they are not rare, in which a single day or a month or a year, sweeps away every vestige and landmark of a once memorable felicity ; in which the ruin flies faster than storms upon a mountain side, or snow-flakes before the driving blast—faster even than a musician scatters sounds—in which *it was* and *it is not* are but utterances of the self-same tongue in the self-same minute. Cases there are slower and more progressive in their nature ; but many more alas ! in which youth, beholding life prosperous and happy at the outset, looks out upon a middle-life of wreck and ruin in which there is an abolition even of every fugitive memorial that there ever had been a vessel to *be* wrecked or a wreck to be obliterated.

This is no fancy picture, my friends, neither is it a highly colored, highly exaggerated statement of undeniable facts ; and although rhetorically spoken, throughout the length and breadth of this great nation not a day passes that the head, pet or idol of some unhappy family does not fall into ruin, and sometimes even the family itself is swallowed up and obliterated or its course is turned away from the beaming sun of prosperity and happiness toward the wild, dark wilderness of misfortune and sorrow. Conflagrations and shipwrecks are great calamities ; earthquakes, pestilences and famines, though of rarer visitation, still greater ; but the greatest of all, gentlemen, is the development of an inherited love for alcoholic drinks in a youth of promise and hope, or the re-kindling of a reformed taste in an older man, through the well-meant, yet injudicious, thoughtless action of a family doctor.

And yet, from even these great moral holocausts, that like deadly simooms or cyclones sweep away in a month or a year the accumulated hopes of a life time, lessons of prudence and wisdom may be learned. They are whispered in the quiet, yet surely fatal progress of disease. They are thundered in the wild ravings of delirium.

They are reëchoed in the senseless screamings of insanity ; and they come to us in a voice of terrible significance from the land of shadows and tragedies—be wary, be wary in prescribing alcoholic liquor as a remedial agent.

To heal the sick, or to drive back the shadow of Azrael from the couch of human suffering is noble and divine ; but to save a man from habits that degrade him in this world and to destroy him in the world to come, is God-like and sublime, and worthily entitle the generous doctor to his place in a niche side by side with, not a Howard or a Nightingale, but a Wesley, a Fletcher, a Whitfield and a Baxter.

Therefore, gentlemen, in exhibiting this agent, not only should we exercise the most unlimited hesitancy in protracting its administration, and not only should we never fail to acquaint ourselves with the heredity of our patient as well as his past habits ; but since temperance organizations, philanthropic associations and good men generally are making such persistent efforts to stay the progress of the fell-destroyer and arrest its ravages, the time has come when medical men who are its natural guardians should cast in their lot with these noble crusaders, and at all times and under all circumstances give them the weight of their professional authority and influence ; and since alcohol has passed into the hands of those who are not only totally ignorant *of*, but culpably indifferent *to* its poisonous properties, and since it is impossible that we can ever secure an undivided control over it, we owe it to ourselves, we owe it to christianity, and we owe it to bleeding, suffering humanity *to, at least*, be the first in denouncing its improper use, and the loudest in pointing out the perilous reefs and dangerous head-lands that underlie its foaming breakers.

Sharp & Dohme, of Baltimore, the well-known pharmaceutical chemists, are now manufacturing an article of pepsin equal to the best known heretofore, and at a price that places it within the reach of every one. Send for a sample.

SPECTACLES IN YOUTH.

Read before the Medical Society of North Carolina, at Greens-
borough, N. C., May 21, 1879,
By RICHARD H. LEWIS, M. D., Raleigh, N. C.

According to the constitution of society in this, our day and generation, the members of the medical profession are the natural custodians of the public health, and it is our duty, therefore, to do everything we can to preserve that health, not only by curing disease actually in existence, but by preventing its occurrence, and by ameliorating the physical condition of our fellow-citizens as far as it may lie within the power of our art. With that object in view it behooves us, as opportunity may present, to instruct the laity in all matters pertaining to hygiene both general and special; and as we are forbidden by our code of ethics to address them through the newspapers, I avail myself of the opportunity by this assemblage of a large number of the leading medical men of our State, even at the risk of proving tedious by a repetition of facts with which they are probably already conversant, to direct their attention particularly to a very important subject, in the hope of reaching through them the general public, and in this way of giving to the latter valuable information of which they are at present for the most part ignorant.

In the nature of things the specialist in medicine has much greater facilities for observing the particular classes of diseases that come within his peculiar province than the physician in general practice, and he is for that reason much more apt to be impressed by a mass of facts that fall under his eye than is the latter, by the same facts doubtless, but occurring at such long intervals in his experience as to be more or less barren of effect. Besides, the general practitioner overburdened by the cares and responsibilities attendant upon the more serious maladies which threaten life, and, in many instances, unfortunately, unable to afford in addition to the instruments actually indispensable, the somewhat costly appliances necessary to make an accurate diagnosis in the class of cases that will engage our attention, is, in some measure, liable to overlook in this apparent triviality, as there are no characteristic objective signs of disease and generally

none of any kind, even if he should be consulted, which on that very account is a matter of doubt, certain eye-troubles of serious moment to the patient.

From my experience in the practice of my specialty, which embraces the diseases of the eye, I am convinced that to a large proportion of our people the idea of putting spectacles on a child is absurd, and, of course, not to be entertained, and it is for the purpose of disabusing their minds of an error fraught in many instances with danger, not only to the physical, but to the mental and moral health as well of their offspring, that I now occupy your time and attention.

The need of spectacles proper, leaving out prismatic glasses, is the result of one of two conditions, either of a failure of accommodating or adjusting power of the eye, or of an error in its refraction. As weakness of the accommodation, pure and simple, save in certain exceptional cases when it is due to a general letting down of the whole system from some exhausting disease, and in which it is apt to prove temporary, is invariably associated with age, the consideration of spectacles in that connection does not come within the scope of this paper; but it is in their relation to the errors of refraction, to-wit: hypermetropia or far-sightedness, myopia or near-sightedness, and astigmatism, inasmuch as they are, with rare exceptions, always congenital, or acquired within the first 15 or 16 years of life, though it is true that the first and last named if slight in degree not seldom remain latent until a much later period, that they will properly engage our thoughts at present.

In order to appreciate the departures from a standard of excellence we must first have a clear idea of that standard; to understand the nature of the errors of refraction we must possess a definite knowledge of the correct refraction—in short, an accurate conception of the normal or emmetropic eye; and, as a repetition of familiar knowledge is preferable to obscurity, I trust that I may be pardoned if at times I appear rather elementary.

Before going into the consideration of the structure of the normal eye, it may not be amiss to recall for a moment the effect upon light of a convex lens. A convex lens bends or refracts the rays of light towards its axis, the amount of refraction bearing a fixed ratio to the curvature of its surfaces. The point at which parallel

rays, i. e., rays from objects more than twenty feet distant, meet after being refracted by it, is called its principal focus, and the distance between that point and the lens its focal length. If the impinging rays instead of being parallel are divergent—if in other words they emanate from near objects, provided, however, the object be more remote than the focal length of the lens, they must, the refraction power of the lens remaining the same, meet at a point further off than its principal focus, or at one of its secondary foci.

In describing the eye as an optical instrument, the very apt illustration that is employed by most writers is the camera. As is well known, that instrument is composed of a dark chamber, with a convex lens at one end and a ground glass plate at the other at, say, the principal focus of the lens.

Parallel rays then would come to a focus exactly on the plate making there a sharply defined image of the distant object, but if the object should be approached until the rays became divergent, they would, of course, meet behind the screen, at one of the secondary foci of the lens, and the picture would be blurred. By a screw arrangement, however, the distance between the lens and the screen is increased until the position of the screen or plate coincides exactly with this secondary focus when the image comes out sharp and bright again. In the eye we have a dark chamber with a convex lens (the crystalline) in front, and posteriorly, (exactly at its principal focus in the normal eye), a sensitive screen (the retina), and, optically considered, the only respect in which it differs from the mechanical contrivance, is in the mode of its adjustment for near objects. The distance between the lens and the retina being fixed and unchangeable in the eye the adjustment cannot, manifestly, be effected by increasing that distance, as in the camera, but it is accomplished through the instrumentality of the ciliary muscle, which by increasing the convexity, and, consequently, the refractive power of the lens, shortens its focal length and brings up to the retina the focus of divergent rays; or, to express it differently, accommodates the eye for near objects.

Now, the normal or standard eye is of such a length, that when the ciliary muscle is perfectly passive and the lens is completely relaxed its principal focus is exactly on the percipient layer of the retina and distinct vision of distant objects is obtained without the

slightest effort. Moreover, in an eye of this description the power of the ciliary muscle is such that it can be accommodated for a conveniently near point for almost any length of time without fatigue.

Having thus attempted in as few words as possible to depict as clearly as the circumstances and the want of diagrams would permit, the normal eye, let us now see to what departures from this standard the several anomalies of refraction are to be attributed. I will at first merely state them, and later take them up seriatim, and consider them in their effects, and in their relations to spectacles, more at length.

In hypermetropia or H. "for short" as it is generally written, the eye-ball is too flat, too short from before backward, and, as a result, the retina is situated within the principal focus of the lens and parallel rays meet behind it. The refractive power is too low. It is corrected by a convex glass which supplies the deficiency in refraction.

In myopia or M., just the reverse is true—the eye is too long in its antero only too long—posterior diameter, the retina is therefore situated beyond the principal focus of the lens, and parallel rays meet in front of it—the refraction is too high. It is corrected by a concave glass which neutralizes the excess of refractive power, which, by rendering the rays of light divergent, sets back their focus to the retina.

In astigmatism there is a difference in the refractive power of two meridians of the eye which cross each other at right angles. It is due to an asymmetry of the cornea, that structure being curved more sharply from side to side, for example, than vertically, so that, while the horizontal meridian is myopic, the vertical is normal, or even hypermetropic. It is corrected by a cylindrical glass which refracts the light chiefly in a plane at right angles to that of its axis and not at all in the latter.

Let us now consider these errors somewhat more in detail and as H. is the most common, certainly in agricultural communities like our State, where the proportion of inhabitants devoted to purely literary pursuits or the finer mechanic arts is comparatively small, we will take that up first.

Far-sightedness, as stated above, is due to an abnormal shortness

of the globe from before backward, so that with the accommodation relaxed, even parallel rays come to a focus behind the retina. As a matter of fact, however, the accommodation unless paralyzed by disease, or artificially by some mydriatic, is never entirely relaxed, the instinct for clear vision being so strong, that involuntarily it exerts itself, increases the convexity of the lens, and brings up the image to the retina in its faulty position. This effort for distance, unless the error is very marked, is not appreciable, and is generally so much less than the total strength of the ciliary muscle that no fatigue follows distant vision ; but when the hypermetrope comes to look at a near object, to read for instance, it must be added to the accommodation required of the normal eye for near vision, the demand upon the ciliary muscle is excessive, and it soon becomes fatigued.

We should remember, though, that in infancy and early childhood the lens is very soft and plastic, and that this extra accommodation, on that account, is obtained at that period in most cases without any apparent strain. About the age of 10, however, the lens commences to get stiff, and with each succeeding year becomes more and more so, and consequently, as the person grows older, a greater accommodation effort is required ; and, sooner or later in proportion to the degree of the error, generally from a few years to forty-five when old sight comes in, it gets to be impossible to keep up the strain for any length of time, and to maintain continuous near vision.

The sight is nearly always very good at first through a vigorous effort, a "spurt" as it were, to use a racing phrase, on the part of the muscle of accommodation, but like all other excessive muscular efforts it cannot be kept up, it soon relaxes and everything becomes dim. After a rest the reading can be resumed, but the same trouble supervenes even more quickly than before, until finally, after repeated trials, each shorter than the preceding, the eyes become so irritable and painful that their owner is compelled to desist.

If the use of the eyes for near objects be persisted in under these circumstances, the retina is likely to become chronically congested and sensitive to light, and the lids to take on a chronic form of inflammation. Besides, this eye strain, by causing a peripheral

irritation of the nervous system is, in addition to the effect upon the eye itself, frequently followed by headache, and it is liable in some cases to cause more or less serious impairment of the general health. Every physician is familiar with the effects of reflected nervous irritation, and although these troubles are more frequently connected with astigmatism, yet they sometimes accompany simple hypermetropia as was strikingly illustrated by the case of a young married lady of 26, who was under my care not very long since. She had a rather high degree of H. (1-9th), and her eyes had troubled her from childhood. For several years she had been quite an invalid, the services of her family physician being in frequent demand for one trouble or another, until he sent her to me for her eyes. I ordered a simple pair of convex spectacles, and under their use, she not only enjoyed keen and comfortable sight, but all her various ills vanished, and in three months she gained thirty pounds in weight.

It is not, however, in its influence on the physical health that H. chiefly deserves our attention, but in its effects upon the mental and moral well being of its possessor which are more lasting and more serious in every way. As we have seen the far-sighted child has perfect vision for distance, and even for near objects for a short while, and, as the popular estimate of sight is generally based upon the distance at which objects can be discerned, he is looked upon as having very good vision.

Moreover, as there are no signs of disease of the eye, and as his teacher and parents observe that he never complains of any difficulty in following agreeable pursuits, that he can see to play marbles, or ball, or even to shoot a gun, possibly with exceptional accuracy, they are not prepared to accept his excuse for unlearned lessons, that he cannot see and that his eyes hurt him. His excuses are, therefore, pooh-poohed, his failures attributed to laziness or stupidity, and his misfortunes probably added to by frequent punishments of some kind—in “the good old times” doubtless by a vigorous application of the birch or hickory. The boy knows that he has told the truth, that he cannot see the letters long at a time, that his eyes do get painful, and he feels that his frequent punishments have been undeserved, and he either becomes cowed, or, his little breast swells with indignation at the injustice done him, and

he becomes sullen and rebellious. In either event his moral nature is apt to be distorted and embittered, and his whole after life rendered less happy thereby. "As the twig is bent so will the tree grow," and the failure to recognize or correct this error in childhood has, no doubt, in this way been productive of truly unfortunate consequences to very many people. After a while, when a faithful trial of the rod, or confinement, or both, has convinced his teacher and parents of their inability to accomplish a physical impossibility; and when the damage to his disposition has already been done, the boy is probably taken from school, all hope of an education denied him, and, though he possess the genius of a Newton or a Dickens, he is doomed, merely for the want of so simple a thing as a pair of ordinary spectacles, to waste his talents between the plow-handles or in some such calling.

Another, and by no means rare, effect of this error is internal strabismus. By the laity it is generally attributed, as you doubtless know from experience, to various causes, such as looking at an overhanging curl, or a feather in the cap, or to the imitation of other cross-eyed children; but Professor Donders has shown it to be almost invariably a result of H. and has explained the reason of it. The rationale of the causation of internal squint by H. is, I think, one of the most interesting things connected with the eye, and worthy of a moment's consideration. As you are aware, both the muscles of accommodation and those of convergence receive their nerve supply from the same source, through the 3d pair; and, inasmuch as in the normal eye they always act together, the demand upon both being made equally as the object is approached to the eye, there is a certain coördination, or harmony of action between them; and since, as a late writer suggests, the defective development of an external organ like the eye is not necessarily, or likely to be accompanied by a corresponding want of development in the central nervous ganglia, the natural harmony of action existing between these two sets of muscles is not likely to be disturbed by any change in the shape of the eye-ball. They always act together then, and as a current of nerve force is sent to the muscle of accommodation a corresponding demand is made upon the internal rectus, so that the action of one cannot be increased beyond certain narrow limits without an increase in that of the other—the greater

the convergence the greater the accommodation and *vice versa*. Now the hypermetrope, who, in order to see distinctly near objects, has to make a violent accommodation effort, avails himself of this fact, and to effect the extra accommodation, he increases his convergence abnormally—in other words crosses his eyes.

An illustration may make this clearer. Suppose a far-sighted child wants to read at 12 inches, but the accommodation required of him for 12 inches is as much as would be demanded of a normal eye for 8 inches. By converging for 8 inches he can, for the reasons above set forth, obtain sufficient convexity of the lens, but then neither eye would be directed to the object which is essential to acute vision. If he were to relax his convergence to 12 inches his accommodation would relax in the same proportion and become insufficient, so, in order to retain both and at the same time see acutely, he makes, while the angle of convergence remains the same, i. e., for 8 inches an associated movement of the two eyes together turning one outward to the object and the other correspondingly inward, thereby producing a squint of the second eye. When this internal strabismus first makes its appearance, it is periodic in character, only occurring when the child looks intently at some near and small object; but after a while the internal rectus undergoes structural shortening and it becomes permanent. At first there is double vision, but in most cases the false image falling on an eccentric part of the retina causes little or no annoyance, and even if it should, the child soon learns to mentally suppress and disregard it. From disease and suppression of the image the squinting eye becomes after a while, for all practical purposes, blind. It is only in the slight and medium degrees of H. that the liability to squint exists, because in the higher degrees it is impossible for the child to obtain clear near vision by any unaided muscular effort, and he speedily abandons the attempt and contents himself with seeing everything more or less directly, but with both eyes. Fortunately the instinctive desire for binocular vision exerts so strong and controlling an influence over the eyes, that, except in cases where there is a congenital weakness of the external recti, the squint is not apt to occur unless by some means, as by a difference in the visual power of the two eyes, the value of binocular vision is diminished.

The applicability of convex glasses as a means of preventing crossed-eyes is, of course, apparent. By supplying the deficient refractive power they make the demand upon the accommodation no greater than in the normal eye, and thus serve to remove the cause for the abnormal convergence. It must be confessed, however, that not infrequently the tendency to squint is so strong, especially in those cases where one eye is much more defective than the other, and where the preponderance of the internal recti is marked, that one eye will turn in eventually in spite of the glasses. And it is likewise true, that in addition to the difficulty of fitting glasses accurately to a child too young to read or give reliable answers, (though it can always be done by a skilful use of the ophthalmoscope), there are certain manifest objections to putting spectacles on very young children; yet, nevertheless, it should always be done, for even if they do not succeed in finally preventing the squint, they will postpone the time of its occurrence, serve to preserve the sight of the offending eye, and thereby to increase the chances of an entirely successful operation at the proper time. Besides, as glasses will generally have to be worn even after the most successfully performed operation to prevent a recurrence of the squint, it is certainly advisable to give them a trial in the beginning in the hope of preventing altogether, or at least postponing, the necessity for resorting to more heroic treatment, at the same time that better vision is afforded.

As illustrations of the value of spectacles in this class of cases I will mention briefly two, occurring among others, in my practice. One was a little boy in dresses, only three years old, who had a marked periodic squint whenever he looked intently at anything, that his mother ascribed to a fall, in which he struck the inner corner of his eye against one of the numerous angles of a chair. I ordered a pair of suitable convex glasses for him, and sometime afterwards she informed me that his eyes remained perfectly straight as long as he wore the spectacles, and that if for any reason she neglected to put them on he would ask for them, such was the comfort he experienced from their use; I have not heard from him since. The second case was that of a young girl of 12, whose squint had existed for seven years, having become in that time almost permanent, (it is not being entirely so was very unusual) as

the eyes were constantly crossed except at intervals of two or three weeks when they would become straight for a short while.

The happiest results were obtained from the habitual use of so weak a glass at $+ \frac{1}{2}$ -42, for at the end of a year when I lost sight of her, there was no trace of deformity, and she had in the meantime been able to study with comfort—a thing she could not do without the spectacles.

Myopia, as already explained, is due in a vast majority of cases to a condition exactly the reverse of that in H.—the eye-ball is too long from before backward—its refraction is too high, and parallel rays, consequently, come to a focus in front of the retina, and vision of distant objects is blurred. Since divergent rays meet further off than the principal focus, at one of the secondary foci, near objects can be clearly seen. This condition unlike that in H. is, we may say, never congenital, but it is almost always acquired in childhood, or early youth, and is, therefore, of special interest to us. Its principal cause is to be found in the prolonged use of the eyes or very near objects, and it is for that reason that it generally makes its first appearance during school life when the eyes are first called on for continuous near work, and that it is most common among literary people. If there happen to be an insufficient supply of light, as is often the case in imperfectly constructed school houses, as well as in the bad habit many children have of reading by twilight; or, if the difference in height between the seats and desks be improperly great, the book must for manifest reasons, be brought very near to the eyes—dangerously near, as I had occasion to set forth at some length in a lecture before the Normal School at Chapel Hill two years ago, and as will, I think, appear sufficiently for our purposes from what follows:

Before maturity, the tissues of the eye in common with those of the rest of the body are soft and yielding, and therefore more prone to give way under any under pressure than later in life. In convergence beyond a certain point the ocular muscles in opposition to the internal recti are put upon the stretch, and the eye-ball consequently squeezed from side to side. If this pressure be excessive, or very prolonged, or if the tunics of the eye be from any cause unusually weak, as the choroid frequently is from the congestion following straining the eyes by a bad light, they are apt to give way

—to bulge backward—thereby increasing the antero-posterior diameter of the ball—at the point of least resistance, which happens to be around the entrance of the optic nerve—the very point, to still further increase the trouble, at which the force of the squeezing is most felt. Of course, when the myopia is once established by this bulging and consequent thinning of the ocular coats, it can be increased still more easily by persistence in the dangerously near approximation of the object—in short by the continued action of the cause upon an eye less able to resist. If this stretching of the tunics, including the retina, be increased beyond certain limits the sight becomes seriously impaired, and in some cases, through secondary diseases excited by this condition, destroyed. It is, therefore, incumbent on us as guardians of the public health whenever we see a child reading with his book too near his eyes to warn him of its liability to make him near-sighted, and if we find him already so myopic as to necessitate his bringing the book within a safe distance, say 10 inches, to suggest the means of his obtaining vision at a more remote and safer point—in a word to advise spectacles.

By doing this, besides opening up a new world to him in distant vision, we may succeed in preventing the progress of the malady, for in the higher degrees it amounts to a disease, there being nearly always more or less sclero-choroiditis at the point of bulging.

The evil consequences of uncorrected myopia in childhood, certainly when it is of a high degree, are not restricted to the eye itself, but are likewise to be seen in the physical and mental economy as well. The bad effects of the stooping position rendered necessary by a high degree of near-sightedness, in a young and growing child, producing the contracted chest, and interfering with the free play of some of the most important of the vital functions, must be so plain to every physician that it would be superfluous in me to dwell on this aspect of the subject. The mental and moral aspect of it is so well considered by another that I will take the liberty of quoting. “Young persons,” says a recent and distinguished writer on ophthalmology, “who are short-sighted and are suffered to grow up without spectacles, that is to say with no distinct vision of anything which is more than six inches or twelve inches from their noses, lose an amount of unconscious education which no teaching can supply. Their faculty of observation in its wide sense can at

best be only partially developed, and their mental horizon is apt to be as contracted as their physical one. Even without reference to other equally important considerations I am accustomed to urge upon parents that short-sighted children should be made to wear spectacles habitually in order that they may see the world as it is, and may not people a world of their own with introspection and morbid imaginings."

From what has been said it is evident that the importance of spectacles to near-sighted children in relation to the preservation of the eye itself as an organ of vision, as well as in relation to their physical and mental health and growth, cannot be well exaggerated.

Astigmatism, as was explained before, is a peculiar error of refraction due to a want of symmetry in the cornea, that structure being curved more sharply from side to side, for example, than from above downwards, in which case the refraction of the horizontal meridian would be greater than that of the vertical. These meridians of greatest and least refraction which are always at right angles to one another, but not necessarily vertical and horizontal, are known as the principal meridians. While astigmatism is neither H. nor M. it yet partakes of the nature of one or the other in all cases, and in the mixed form of both; for any variation from the normal refraction in any meridian would necessarily produce in that meridian one or the other of these errors. Time and your already overtaxed patience forbid our going into a more lengthy consideration of the nature of this most interesting anomaly, though that is a matter of small moment, as any one desiring to pursue the subject further will find it fully explained in any good work on the eye.

For our purpose it will suffice to bear in mind the essential fact, which is the *difference* in the refraction of the two principal meridians. Let us consider for a moment the consequences of such a state of affairs.

It is evident that an astigmatic eye cannot obtain a sharply defined image of any object near or distant for the reason that when it is accommodated for one meridian it cannot be for the other at right angles to it—it cannot focus, for instance, vertical and horizontal lines at the same time. It is true, that in childhood when, as we have seen, the accommodation is very active, if the difference

between the two principal meridians be comparatively slight, very good vision is sometimes obtained by accommodating separately for the two aspects of the object with such rapidity that the second can be seen before the first fades from the retina. When the astigmatism is high in degree, however, this cannot be accomplished, and the sight is very defective. Asthenopia too is more apt to accompany this trouble than H. even, simply because one continuous steady muscular strain for a certain time is much less fatiguing than a multitude of smaller efforts following each other with lightning rapidity. It would certainly be much less tiresome to a man to pull steadily one pound for one minute, than to make 96 pulls of a drachm in the same time.

On this account it is the most annoying to the patient of all the errors of refraction, and the reflex irritation of the nervous system excited by the excessive demand upon the accommodation, and by the dazzling resulting from the irregular refraction of the light which is very trying, (it is beautiful to see the relief in this respect that sometimes immediately follows the correction of the anomaly), is a very frequent cause of headache, and in some cases of serious, if not dangerous consequences to the general health, instances of which you have no doubt seen recorded in the journals. Looked at in its effects upon the mental and moral nature nearly everything that has been said in this connection of both H. and M. can be properly said of astigmatism.

The nature of myopia was first explained by the great German astronomer, Kepler, as early as 1604, as I learn from the classic work of Donders ; but of H. and astigmatism nothing except their effects was known until the present century was well advanced, and indeed it was as late as 1858, when Donders first published an account of the true nature of H. with a solution of the various optical problems connected with it, so that the blessing of sharp and comfortable vision to the numbers of hypermetropic and astigmatic people in the world is one, and by no means the least, of the many good gifts to suffering humanity of "Modern Medicine."

I have purposely omitted any consideration of the methods of selecting glasses, assuming every one possessed of the appliances necessary to an accurate test of vision to be already familiar with them.

To some of the more conservative among you, gentlemen, the facts that I have just so imperfectly called to your attention may appear chiefly fanciful and theoretical, but they are of very great practical importance as the testimony of every one who has investigated them proves.

As every oculist knows these errors of refraction are quite common, and on account of their hereditary character increasing in frequency; and that they should be promptly corrected, I hope I have been able to show.

From the numbers of such cases occurring in my practice during my short residence in the State, I am confident that there are hundreds if not thousands of our people at this moment suffering from "weak eyes" and its consequences, in total ignorance of the fact that so simple a thing as a pair of spectacles accurately adjusted would clear away the mists that now obscure their sight and permit them to use in comfort and thoroughly enjoy the first of the senses.

As said in the beginning, very many of these sufferers will not seek you for aid because there are no manifest evidences of disease, but you will no doubt be asked for advice in many other cases, and if by this feeble effort I shall have been at all instrumental in ameliorating the physical condition of some of our fellow beings by the more extended application of our art, my object will have been accomplished.

SULPHUR AS A REMEDY IN THE TREATMENT OF DIPHTHERIA.

Read before the Medical Society of North Carolina at Greensborough, N. C., May 22, 1879.

By WM. R. WOOD, M. D., Scotland Neck, N. C.

Educated in an age and school when lunar caustic was the remedy *par excellence* in the treatment of diseases of the throat, I was taught to believe that the physician who failed to exhibit it in his ministrations to that much abused organ, was sure to be condemned

by the family and friends of the patient as having neglected his duty in its most vital and essential part. Under the rapid advancement of an enlightened science, patient research and a sound pathology, I am happy to see such remedies in the treatment of such diseases fast passing away from the pages of medical literature. For with my experience in the treatment of that most fatal disease, diphtheria, I am most profoundly impressed with the belief that about as much mortality has been caused by the active use of nitrate of silver in the treatment of that affection as by the disease itself, when unaided by any medical treatment whatever.

Waiving all unnecessary discussion and argumentation relative to the nature and pathology of the disease in question which has been so often and exhaustively debated by the profession at large, I desire simply to lay before the profession of North Carolina my experience and practice in the treatment of diphtheria with sulphur as a topical or local application, for what it is worth. Hoping after testing its efficacy by actual experience as I have done, they may succeed in establishing its reputation as a valuable remedy in the treatment of this fell destroyer of the human species. Neither will I pause to discuss its *modus operandi* or how it produces its specific action. Whether a sufficient quantity being absorbed into the general circulation, manifests its action as a powerful alterative on the system at large, attacking the diphtheritic poison through the medium of the blood or simply acting locally, directly on the membranous exudation, destroying the peculiar *fungoid organisms* by some other of its numerous properties, is a question I shall leave to theorists and experimentalists to determine. The idea acted upon by me relative to its curative powers was that of its action as a local specific in the treatment of scabies or itch, were so pronounced an effectual in destroying the minute animalculæ peculiar to that affection—why may it not produce the same specific effect as a curative agent over the *micrococcus bacteria* or whatever *contagium vivum* it may be that develops the peculiar diphtheritic exudation; or, in other words, if sulphur *per se* possesses in such a powerful degree the capacity as a destructive agent over so great—by comparison—an animalculi as the *sarcoptes hominis* (acarus scabiei), why should it not exert a thousand fold more destructive influences on the infinitesimally minute micrococi or bacteria of the diphtheritic membrane?

Those were the principles upon which it first presented itself to my mind, and on which I founded my opinion of it as a remedy in that most fatal malady. The first case upon which I had occasion to observe its especial efficacy was in a young lady some seventeen or eighteen years of age, living in the village of Palmyra, about seven miles distant from Scotland Neck, whom I was called to see on the evening of January 3d, 1878. I found her suffering from sore throat, with considerable fever and headache, accompanied by an eruption on the face, neck, forearms and hands, causing intense burning and itching sensations. On examining her throat I discovered the whole of the fauces, soft palate and back of pharynx, completely covered by diphtheritic exudation; fever being quite high and tongue very much coated, (it being very near night), I prescribed, calomel viii, Dover's powders iv, grs.—to be exhibited in pill at bed time, after a hot mustard foot bath; also directed a teaspoonful spts. nitre every two hours in wine glass iced flax seed water, with instructions to take in the morning a goblet of citrate of magnesia. On examining my medical case for the purpose of preparing a gargle for her throat, I found that I had neither tinct. of iron or chlorate potash. (I intended to make application of tinct. chloride of iron to her throat, and prepare a gargle of chlorate potash). On looking up, I noticed on her dressing case a glass of sulphur and water mixed, which she informed me, "she had seen recommended in a newspaper as a good gargle for diphtheria." I at once determined to let her use it during the night, and bring her a carbolic diphtheria gargle next morning, and left. On my return next day about noon, I found her much better, with slight fever and decidedly relieved of the intense burning and itching caused by the eruption which seemed fast disappearing. On examination of her throat I was much surprised to notice the almost complete denudation of the diphtheritic membrane observed on the previous evening. The sulphur gargle was continued and she was placed on chlorate potass. mur: tinct. iron and quinine in moderate doses every three or four hours. The nitre and ice water for the yet remaining fever being continued. I promised to call again next day, but did not from some cause or other. I visited her though, on the day after, (the 6th,) and found her almost well, the throat being entirely clear of the membranous exudations; but red, and

tonsils somewhat swollen. I prescribed acetous gargle and continued other remedies. This patient recovered without another bad symptom

My next case proved to be one of great anxiety and care, a sweet little girl, Lizzie L., residing in the family of Mr. E., of Scotland Neck, about six years of age, was attacked with diphtheria of a most violent form, early in October, 1878. Being confined to my room by sickness, I did not see her for several days after the inception of the disease. On the morning of the 8th, however, I was urgently requested to see her, and visited her. I found her condition critical in the extreme. She presented at first sight all the phenomena of a well developed case of scarlet fever. A crimson flush or efflorescence suffused her face, breast, neck, arms and lower extremities; high fever, hot dry skin, extreme restlessness, excessive nervousness and delirium; a wild expression of countenance, eyes red and watery, tongue coated and red on edges and tip, with slight nausea and retching, and to complete the complication, the roof of the mouth, the fauces and back part of the throat, were thoroughly covered by the peculiar diphtheritic exudation, the tonsils, the parotids, the sublingual glands and all the surrounding parts were very much swollen and inflamed. I immediately placed this child in a hot mustard hip bath and prescribed refrigerant diaphoretics combined with teaspoonful spts. nitre and one drop tinct. aconite every two hours, directed her head and face to be bathed in ice water and vinegar; also gave her five grains calomel and one of ipecac, to be followed in the course of a few hours with wine glass draughts of citrate of magnesia and ice every hour until bowels were moved. At the same time I had flannel applied to the glandular swelling about the throat saturated with the following linament: camphorated tinct. soap and tinct. arnica, of each one ounce, tr. of aconite and oil turpentine, of each two drachms.

This case being so severe and complicated, I did not deem it advisable to risk the sulphur application to the throat at first, as I thought it inexpedient to resort to an unestablished remedy in so serious a case. I, therefore, made frequent applications of tinct. chloride iron to the exudations, and used carbolic acid gargle. During the day and night the medicine taken acted finely, her bowels were well and thoroughly evacuated, her fever somewhat

moderated, and altogether by next morning her condition seemed to be more favorable; but on examining her throat I found no material change, the ulcerations looked dusky and ash colored and the portions of the mucous membrane not covered by the exudations, presented an alternate red, mottled and livid appearance. As I am a sworn enemy to nitrate of silver in all such cases and as I had made several applications of the mur. tinct. iron during the night without any perceivable benefit on impression, I determined to try the sulphur treatment, as it could do no possible harm if it did no good. I put a teaspoonful of flowers of sulphur in half wine glass of flax seed water, and made as well as I could, by constant stirring, a thick emulsion, taking a small mop made of soft, linty cloth, I filled it well with the sulphur mixture and thoroughly mopped her throat with it, leaving a pretty considerable coating of the sulphur on the diseased surfaces and adjacent parts; ordering the application to be repeated every three or four hours. She was also put upon beef tea and milk toddy, in tablespoonful doses, alternately every two hours; and directed to use the following gargle, freely and often: chlorate potash, 3 ij. ; hot water, 3 vj. ; alcohol, 3 ss. ; creosote, (8) viii gtts. ; hydro chloric acid, xxx gtts. Fever still being very high and the excessive nervousness and delirium more fully pronounced than on the previous evening. I ordered two drops tinct. aconite and five grs. bromide potassium in teaspoonful, camphor water every three hours, continuing the refrigerants and nitre. Crushed ice was allowed by the teaspoonful, *ad libitum*, and frequent sponging of the hands and face with ice water and vinegar, continuously applied.

By the next day I was much gratified to find a most favorable change in her condition, the membranous exudation had entirely disappeared from the roof of the mouth and back part of the throat, and only two remaining patches were visible, covering each tonsil. The mucous membrane of the surrounding parts had also changed its lividity of color, and now presented a bright red and glistening appearance. Her other symptoms were also much improved, pulse softer and less frequent, tongue slightly moist, slight perspirations, fever, in a measure, subdued, and the scarlet efflorescence disappearing and of a paler hue, with moments of returning consciousness. I now administered tinct. chlor. iron, chlor. potassa.

and quinine every three hours, in as large doses as her stomach would tolerate. Dover's powders were ordered at night for restlessness and an occasional dose citrate magnesia to regulate the bowels. This course of treatment was persevered in for several days or a week, at the end of which time all the symptoms had materially moderated, the scarlet rash had almost totally disappeared, the patches of exudation on the tonsils, before alluded to, had entirely peeled off, nervousness and delirium in a great measure subsided, and consciousness again established. Notwithstanding all this improvement, there was still a condition about the throat which I did not like, although every vestige of the diphtheritic membrane had disappeared, and the swelling of the different glands alluded to, much diminished, yet there remained a bright red, glistening and hardened appearance about the fauces and tonsils, the latter being considerably enlarged, however, she gradually improved under the above treatment, with slight modifications, and at the end of about three weeks from the first attack, was considered convalescent and discharged, when suddenly without any apparent cause, she was taken with a relapse; but in a more modified form, and again her throat became covered with diphtheritic ulcerations. Again, I resorted to the sulphur applications, with all the other remedies as above described, the sulphur soon cleared away the membranous exudation from the throat, and she finally recovered from this second attack; but convalescence was slow and protracted, and it was several months before she regained her former health and strength.

The next cases on which I applied sulphur to the throat were those of two beautiful, interesting young girls, Minnie and Etta, aged twelve and fourteen respectively, the daughters of Mr. E., of Scotland Neck, the same in whose family Lizzie L., was an inmate as mentioned above, both were attacked during her first convalescence, one almost immediately after the other, and both presented the same peculiar characteristics of the disease as described in her case, though in a milder degree. Both were suffused by the same scarlet rash, though it was not near so intense and well developed as in her case, and the throats of both were well covered with the diphtheritic exudations—there was much less fever and restlessness and no delirium—both were treated with the sulphur applications

and the other usual remedies, and both rapidly recovered in the course of ten days or a fortnight without any serious consequences.

Now was this scarlet fever I have been describing? I think not. There was no desquamation of cuticle, or very little, and none of the consecutive diseases or sequelæ attendant upon that disease. It occurred in an isolated and healthy neighborhood. There was no scarlet fever prevailing at the time, nor had there been.

There were no other cases similar to those described or following them. My opinion then, was, and is now, that they were merely sporadic cases of scarlet rash or roseola, complicated with a severe attack of diphtheria, as there had been one or two cases of that complaint reported in the neighborhood, though unaccompanied by any attendant diphtheritic lesion.

The fifth and last case I shall report in this paper in which I used the sulphur treatment, was that of a negro infant, aged seven or eight months, which was brought to my office by its mother. It was suffering from an almost putrid sore throat, covered by a mass of diphtheritic exudations, with a constant, offensive and fetid discharge from either nostril. Its throat being so swollen, I could not make any application whatever, without strangling or suffocating it. I, therefore, injected the sulphur mixture through the nasal passages, and directed its mother to fumigate it with the flowers of sulphur three times a day, and gave it internally, minute doses mur. tinct. iron, chlor. potassa and quinine every three hours, and recommended cleanliness to both mother and child. This patient materially improved under this manner of treatment; but died some two weeks afterwards from exposure and sheer negligence. I am confident this case was benefited by fumigations with sulphur, and would eventually recovered had it been blessed with the requisite surroundings. I usually use one or all of these methods in applying the sulphur to the affected parts, viz: The one already mentioned as mixed with flax seed water and used by mopping, gargling, or injecting through the nasal passages, or what is preferable when it can be done, blowing the dry sulphur through a reed or quill directly on the diseased surfaces, and lastly by fumigation. I have treated numerous other cases of diphtheria with sulphur in the last eighteen months, some very simple ones, whilst others were of a very grave and serious nature, and in no single instance thus far have I had cause to regret its adoption.

Before concluding this article I will mention a severe and most obstinate case of membranous croup in which after exhausting all the usual, as well as unusual remedies generally exhibited in such cases for two consecutive days and nights, when almost despairing of the little patient's life, I resorted to frequent applications of the sulphur emulsion to its throat with occasional fumigations also. The child, after a desperate struggle, finally recovered ; but whether any credit was due to the part the sulphur treatment performed in his recovery, or, it was owing to other and more rational treatment, I am not prepared to state. But I think with the lights before me, it deserves at the hands of the profession a fair trial and impartial judgment in the treatment of diseases of the throat, especially those of a diphtheritic character.

THERE IS DANGER IN A KISS.

By R. L. PAYNE, M. D., Lexington, N. C.

Very many of the diseases to which we poor mortals are liable, can be prevented, provided proper efforts are put forth to meet that most desirable end.

This truth no one will gainsay, still, the subject has not yet attracted the attention its importance demands, and it appears now to be the especial duty and province of those of our profession who live in this day of preventive medicine to erect finger boards along the highways of life, which shall point out clearly and plainly the known causes of disease, and also the usual means of propagating and preventing the same, so that all persons may be able to see and profit thereby.

There is oftentimes *danger in a kiss*, notwithstanding Lord Byron, that prince of poets, in the days gone by, expressed the wish

“ That womankind had but one rosy mouth,
To kiss them all at once from North to South.”

Ah ! it was a bad wish even for so bad a man, and so faithless a lover as he, yet it does seem that he was not peculiar in this respect,

since in this glorious age of enlightened progress, such sickly sentimentality is no less popular, and has no fewer votaries, than in the days of old, because kissing, *kissing*, KISSING is still the order of the day !

The ladies kiss each other upon every offered opportunity ; every flimsy pretext ; the poor little children, and even the babies are made to do likewise in compliance with the requirements of genteel society, and the men too, would do the absurd thing at every meeting, were it not for the lamentable truth, that they are obdurate and have not yet been educated up to the sound, civilized and philanthropic principle of "dog eat dog."

They say they would not enjoy such a proceeding even under the most auspicious circumstances, and I fully endorse the sentiment.

However, I am not going to make war upon kissing under all circumstances, because husbands and wives, and parents and children, and lovers, etc., etc., will sometimes resort to the diversion, and I am free to admit that under favorable circumstances the practice may be allowed, although it be unnecessary, yet they all should know of the poison that often lurks in a kiss.

But it is about kissing in general I want to speak—the foolish fashion, the idle fancy,—the consummate folly of this age !

There is no doubt of the fact, that, the practice of promiscuous kissing, which is prevalent in many localities, is the source of untold evil to the human family ; nor can there be a doubt either ; that upon this frivolous altar of fashion, is sacrificed annually a hecatomb of innocent victims.

Every physician of experience knows this to be true, and yet as a body we have been strangely and culpably reticent upon the subject.

For the sake of illustration allow me to imagine a case which, although imaginary in this particular instance, is alas, of frequent occurrence in every day life. Two ladies meet upon the street, or elsewhere, by accident, or by design. The one is wan, delicate, sickly, with slight sores upon her lips, or within her mouth ; the other is vigorous, the very picture of a robust, healthy woman. Perhaps, both of them are good, innocent and virtuous women, but the first mentioned, by no sin of her own, is a victim of that fell destroyer, syphilis.

The fashion of the day, the mawkish custom of polite society demands that they shall kiss each other.

They may be scarcely more than acquainted, not even friends in the true acceptation of the term, but all-potent custom requires it, and the kiss is given.

They part mutually well pleased, and the kiss of empty form is at once forgotten, but its stealthy sting remains to do its silent work of ruin.

Soon that lively, healthy, splendid woman loses her bloom, wilts, withers, and decays, because she too, has been touched by a poison which if not more instantly fatal, is, at least, far more subtle, and more lasting in its effects, than is the scorpion's sting, or the sirocos smothering breath. The kiss was lightly given, and lightly received, only a passing courtesy, but God only knows where its effects shall end !

If the woman, per chance, bears children after her inoculation its results may descend a blighting, withering curse to generations yet unborn.

This picture is not overdrawn, and has been repeatedly exemplified in the experience of many of our profession, and here is another, which many have seen and will recognize as faithful.

A happy loving husband, and wife become strangely diseased ; the husband consults his physician, and is horrified to learn that he is suffering from syphilis. He knows that he has ever been faithful to his wife, and she knows that she has always been true to him, but the green-eyed fiend distrust enters their bosoms, each suspects the other of a breach of trust ; and the monster suspicion is, perhaps, forever enshrined upon the altar where once burned only the fires of confidence and love.

Such cases are by no means uncommon, and may sometimes follow as the consequence of a *fashionable kiss*.

Ricord, speaking of the means of propagating syphilis, asserts that, "the organs of the mouth are often the propagators of the contagion by a lascivious kiss, by the application of the lips, or tongue to some part of the mucous membrane, by suction of the breasts, and especially in suckling."

S. D. Gross, so often called the nestor of American surgeons, (than whom I recognize no higher authority) says : "A chancre

may sometimes form upon the lip; more frequently the lower than the upper, as the result either of the contact of chancrous matter, or of inoculation with the secretion of a mucous tubercle, as in act of kissing, smoking, drinking, or glass-blowing," and again, "chancre may be communicated by a sore, or mucous tubercle upon the lip, or tongue of the child in the act of sucking."

Many of the members of the North Carolina Medical Society will remember an interesting case in point, reported when we last met in Wilmington,* by our distinguished confrère, Dr. E. Burke Haywood, of Raleigh, in which a lady contracted a buccal chancre from a secondary mucous tubercle on the lip of her lover. The doctor speaks of this case as "a warning to lovers;" would to God that such warnings might be written everywhere in characters so plain that "even the wayfaring man though a fool need not err therein."

The following cases came under my own treatment last summer :

A young man came to me with a neglected case of pox. He was already in the secondary stage of the disease, and among other symptoms which presented, had several mucous patches upon his lips, and within his mouth.

He had a little cousin, a girl child of sixteen months of age, who was still at its mother's breast. They were very fond of each other and he was frequently in the habit of fondling, and kissing the child.

Of course I knew nothing of this intimacy, or I should have warned him of the danger. Some weeks after this I was called to visit the child and its mother. I found the little one with enlarged cervical glands, sore mouth, sore eyes, etc., and its mother said to me, after I had prescribed for the child. "Doctor, please look at my nipple, I believe I am going to have cancer of the breast." Her nipple was sore indeed, and her axillary lymphatic glands were enlarged and indurated, not from cancer, however, but from a characteristic chancre.

I treated them all for syphilis, and the good results of the treatment verified my diagnosis. I have seen many similar cases during the last twenty-five years, and many more might be cited from the authorities upon this loathsome disease, but the above are sufficient for my purpose.

*Transactions for 1870.

Now let us look at another picture ! A number of ladies are gathered together in a social party with their younger children, and infants. As a matter, of course, they all kiss each other, and each other's children, and the children are made to do so too, in accordance with the customs of this Christian land.

All are merry, happy, jubilant even, except one poor child who sits apart from the others, with quickened pulse, flushed, or ashen face, slightly swollen throat, and feverish brow.

His eyes are dull and heavy, and he complains of pain in his back, limbs and head, and slight soreness of his throat. The poor boy has diphtheria, yet all of that jovial company have kissed him, and have run the risks of that dread contagion !

I know that the authorities are divided with regard to the contagiousness of this disease, and that the question is still considered by many as *sub judice* ; but be that as it may, I have seen enough with my own eyes, in my own practice, and alas ! even around my own hearth-stone to convince me beyond a doubt of its contagiousness, and that it can be communicated by kissing, and although the whole world of physicians should declare that it is not, I am, from my own experience, stubborn enough to believe that it is, and such will be my honest conviction until I have more, and better proofs to the contrary.

Very many other diseases may be conveyed by the act of kissing, and I might go on at length enumerating them, and adducing "confirmations as strong as proofs of Holy Writ ;" but my object is simply to call attention to the truth which lies in this direction, and to testify most solemnly against a practice so fraught with danger, so pregnant with death !

The act of kissing is never under any circumstances indispensable, and the indiscriminate practice is not only unnecessary, but is also foolish, dangerous, and very often insincere.

Ah, yes ; many an insidious kiss has been given since the days of Judas ! Then, why longer indulge in a custom so empty, so meaningless, but yet so potent for evil ?

The people at large are ignorant upon this subject, but medical men are not. Let us then as a profession speak for the truth, although many may say that our words are wasted, and that we are but "carrying our coal to Newcastle." Let us do what we know to

be right, though the heavens fall, being assured that duty performed brings its own reward.

“ Who does the best his circumstance allows,
Does well, acts nobly,—angels could no more.”

In our climate, so continuously hot for several months at a time, the question of artificial nutrition is doubly important for the sick and for the enfeebled. There is no scarcity of good alimentary articles, but there is an objection to very many of them that they will not keep. This makes our estimate of Trommer's Extract of Malt higher each season. It is adapted to a wide range of cases requiring supplementary food, it is almost always acceptable to the stomach, it aids digestion, it is an excellent vehicle for cod liver oil and other unpleasant medicines, and above all it will keep in the hottest climate. It is not surprising, therefore, that its use is fast becoming more and more wide-spread.

Pilocarpin as a Remedy for Alopecia.—Dr. G. Semithz, of Cologne, (*Med. Times and Gazette*) has reported the cases of two bald men whom he treated in his ophthalmic practice with subcutaneous injection of hydrochlorate of pilocarpin to produce absorption of inflammatory residua within the eye. In both a secondary effect, consisting in the rapid growth of young downy hairs on the balds parts of the scalp, was observed. In the first case a man of 60, had in four months his whole head covered “partly with grey, and partly with black hairs” of considerable growth, and so as entirely to obliterate the previous baldness (!!)

Give Due Credit, Neighbor!—When a neighbor copies a selected article, typographical errors and all, it is pretty fair to presume that that neighbor does not exchange with the original. We wish the editors addicted to this small practice would take the pains this Journal does to get the best, or acknowledge the source of information.

CURRENT LITERATURE.

KUMYS.

We are indebted to the *Proceedings of the Medical Society of the County of Kings*, July, 1879, for the following, by C. A. H. De Szigethy, M. D. :

This fermented milk preparation is generally known by the name of kumys without any regard to the kind of milk from which it is prepared, although the Tartars, designate by kumys only that preparation obtained by the vinous fermentation from the mare's milk, that from cow's milk Airen or Arjan.

* * * * *

From among the many complicated and laborious methods of preparing the kumys I select two, which I have found to be the simplest, so that those who cannot procure any of a standard quality may have the benefit of a tolerably good substitute.

Take about 9 litres (5 quarts) of freshly milked cow's milk, 250 grammes (one-half tt.) of white or of grape sugar, and heat it to 30° or 32° C. (86° to 90° F.), then add about 8 grammes (2 drachms) of compressed yeast and stir for a few minutes. After this, bottle the same into champagne bottles, but do not fill the bottles up to the cork. The bottles must then be shaken a few times for the next three or four days, by which the strongly effervescing milk wine will be ready for use.

Previous to the bottling, bottles and corks must be well cleansed with a solution of soda.

Another way of preparing kumys that will never cause any diarrhoea and is very nutritious, is the following : Dissolve $\frac{1}{2}$ kilogramme (one tt., 4 ounces) of finely powdered milk sugar in 3 litres (6 pints) of water ; of this solution, mix 1 litre with 3 litres of skimmed milk that has stood over night ; to this add $\frac{1}{2}$ to one bottle of already prepared kumys ; then let this mixture stand in a temperature of about 21° C. (70° F.) till some carbonic acid bubbles begin to form, then add the remaining 2 litres of the first sugar of milk solution with 6 litres more of a well-skimmed milk, and churn the whole mass for about 15 or 20 minutes in a new churn ; after this, let it stand for a day and then churn again for an hour before

bottling it into well-secured champagne bottles. These bottles must then be kept for 6 or 8 hours longer in a temperature of about 21° C. before they are removed to a cooler place.

Kumys deprived of its casein can be prepared in a similar way, only that sweet whey must be used instead of the milk.

The taste of all these sparkling preparations will be pleasantly tart, with a flavor of almonds.

Judging by the methods of preparing the kumys and by the constituents of the same as seen above, we can easily understand its physiological action and its therapeutical worth.

The *alcohol* in the same will help the formation of fat, will lower the temperature of the body and produce sleep.

The *sugar of milk (lactin)* therein will assist to increase the weight of the body.

The *lactic acid* will lower the temperature of the body and the frequency of the pulse, and will diminish the secretion of the mucous membranes.

The *casein* will effect a restoration of organic tissues.

The *carbonic acid* in it will diminish the frequency of the heart's contraction, will increase the energy of the heart's impulse, produce diuresis like lactic acid, and calm gastric irritation.

According to the above, kumys may well be proclaimed the most decided enemy of emaciation and as possessing the highest powers of nutrition wherefore it cannot justly be looked upon as "only a roundabout way of preparing milk-punch"; as by the fermentation to which it has been and still is subjected, it has been changed into an already digested milk, whose casein has become quite minutely subdivided and rendered less liable to being coagulated into large lumps, and consequently is made readier for absorption.

The therapeutical indications follow quite rationally from the above.

In Russia, where it is in popular use since time immemorial, it is looked upon as the *only* remedy for consumption, and deservedly, too.

All the consumptive patients who subject themselves to a kumys cure show, as the first objective symptom of improvement, a changed rosy complexion, that manifests itself already in the course of the first weeks of the treatment; this is so general that it is

called the kumys complexion." This may be caused partly by the change in the quality of the blood and partly by way of its distribution.

The blood is found to be greatly changed ; it has become thicker, contains more fibrin, more hæmato-globulin and less serum. These changes are easily understood when we take in account its easy digestibility and its property of being absorbable with hardly any residuum. Its effect can be compared to that produced by transfusion. It is, farther, not an improbable supposition, that there are factors in the kumys which produce an afflux to the kidneys and to the skin. The diminution of the mucous secretions by the use of the kumys may be explained also as depending upon the increased antagonistic functions of the before mentioned systems.

The increased irritation of the vaso-motor centres necessarily changes the lumen of the blood vessels in certain districts, some of them becoming more and more permeable to the circulation of the blood. However this may be, so much is it put beyond doubt by all observers, that medicine is in possession of no other blood-restorer so speedy and sure as kumys ; wherefore its employment is advisable in all those diseases which can be cured by the improvement of the mass of the blood—that is to say, in such diseases in which a diminution of the solid ingredients of the blood do exist.

In brief, we may sum up the following indications for the therapeutical employment of the kumys :

1. *Anæmia* in all its various forms, and with all its consecutive complaints; 2. Chronic catarrhs; 3. Chlorosis; 4. Chronic phthisis pulmonalium (in its torpid form); 5. Scurvy; 6. Convalescence from long acute diseases—after profuse hemorrhages; after emaciation from extensive sloughing, blenorrhagias, diarrhœas; after protracted lactation, etc.; 7. The adynamic stages of all acute diseases; 8. Dysmenorrhœa; 9. Hydræmia, scrofulosis, leucæmia; 10. Hysteria and hypochondriasis (based upon anæmia); 11. Disorders of digestion and sanguinification; 12. Chronic and acute catarrh of the stomach and of the intestines.

In all these morbid states kumys can be employed with the most brilliant success, and every one may convince himself by his own observations that the effect of the kumys treatment will be the more striking, the greater the decay of strength has been.

Contra-indications for the employment of kumys are :

Plethora ; apoplectic habitus ; hæmorrhoids ; epistaxis ; menorrhagias ; organic diseases : of the heart ; of the blood vessels ; of the nerve centres ; of the kidneys ; of the liver ; of the spleen ; urinary calculi.

The quantity of the kumys used per diem is very variable ; one to five bottles a day will be the quantity generally to be used. The daily dose at the beginning of the treatment ought never to exceed one bottle. A glassful ought to be taken at longer or at shorter intervals. Every subsequent day the quantity may be increased with two or three glassfuls, until the total amount at the end of the first week will reach about five bottles, of which three bottles ought to be used until 1 P. M., and the remaining two others in the course of the afternoon. The time between 12 and 4 P. M. ought to be devoted exclusively to dinner and sleep. The dinner may consist of soups and of any lean meat (except pork or goose). Where there is a tendency to constipation, raw fruits, as berries, milk, fruits, vegetables, etc., are to be scrupulously avoided. At dinner time a wine-glassful of wine, or beer, or porter may be taken (claret excepted). At supper, if required, a chop, cutlet or roast meat may be avoided also cold baths. Moderate exercise is desirable. Patients confined to bed may take about six tumblerfuls a day. The employment of kumys does not interfere with any other course of treatment. Whenever a desire of sleep should be felt it should always be at once yielded to, and nothing ought to interfere with the patient's sleeping as long as he likes. When given to children under one year of age, the contents of the bottle should always be emptied into a pitcher, and from that into another, until all the gas is eliminated ; then take what is necessary for one dose, and pour the remainder back into a bottle, cork, and keep it in a temperature between 10° and 16° C. (50° and 60° F.) When always re-corked and re-placed into a cool place it will keep for a day. It must never be warmed, sweetened or diluted, and not be given less than two hours after any other form of milk.

Children from three weeks to three months of age suffering from defective nutrition, and children over three months suffering from cholera infantum, should, for the first twenty-four hours, be given one teaspoonful every hour. Children over

three months of age suffering from any other form of defective nutrition than cholera infantum can take kumys from a nursing bottle, giving them just half the quantity they have been in the habit of taking of other food.

THEORIES OF FEVER.

[Extracts from a paper read by Dr. E. P. Hurd, of Newburyport, Massachusetts, before the Essex North District Med. Society.]

The hypothesis of calorific nerves and nervous centres (supported by Bernard) was discussed, and shown to be destitute of proof; that of a primitive perturbation of the vaso-motor system was found to be equally wanting in solid foundation. In fevers the nervous symptoms are not constant, and when they occur they are secondary to the nutritive disorders. The abnormal heat is not due to simple paralysis of the sympathetic, for division of the sympathetic does not produce fever. The evidence all points to a pyretogenous cause at work in the blood, and by its irritating effects on the tissues, exaggerating all calorific chemico-vital processes. In short, the *humoral* theory is the best. The *materies morbi* of fevers in general is unknown. The germ theory lacks inductive proof, and certainly cannot apply to sympathetic fever from wounds or surgical operations, etc.), or to ephemeral or catarrhal fever. The hypothesis of a ferment in the blood, exciting and giving preponderance to dissimilation, is more probable; this ferment may be a chemical poison from the atmosphere, or it may be a morbid product of the system itself.*

* * * * *

We are becoming more and more convinced that there is an orderly sequence of events in fevers as in all other phenomena of nature, there is law and not disorder even in disease, and that human

*I still cling (with dullness that is characteristic) to this expression of opinion, after a careful perusal of the able paper of Dr. Becker, in the Journal, for May 15th. As an effort of the scientific imagination (supported, I confess by striking analogies, Dr. B.'s theory leaves nothing to be desired.

skill and knowledge are impotent materially to modify the course of febrile diseases. There will be occasions when your frail bark will be tossed on angry billows, when by adroit manœuvres you may avoid rocks and quicksands ; there will be other occasions when the utmost you can do is to determine your bearings, your latitude and longitude, powerless even to guide the craft amid the raging storm.

The treatment of fevers comprises the following principles : (1.) Eliminate the cause. (2.) Support the strength. (3.) Meet dangerous complications as they may arise. (4.) Rescue the organism from the baneful effects of the fever heat.

(1.) The first indication, to neutralize or remove the *materies morbi*, cannot be efficiently met, because we do not know what the *materies morbi* is. It may be an altered condition of the blood from cold or heat, or constitutional cachexia, or from retained excreta, the pyretogenous acting as a ferment, poisoning the whole mass of the blood, and exciting to inordinate activity the organic combustions; it may be a living germ from the vegetal world, or a degraded form of bioplasm.

We are wholly in the dark on this subject, and therefore cannot intelligently combat the *materies morbi*. We are certainly not warranted, on the basis of positive knowledge, in dosing our fever patients with antiseptics and antizymotics with the intent to neutralize in the blood or destroy the fever ferment or fever germ. I cannot except the traditional chlorate of potash and euchlorine, permanganate of potash and salicylic acid, carbolic acid and sulphocarbonate of sodium, sulphurous acid and bisulphite of sodium, or even, in this connection, quinine and alcohol. Until we have positive knowledge, a judicious and respectful skepticism is our highest wisdom. Nevertheless, while we may not aim our shaft at an imaginary foe, we do well to keep the emunctories open, as there is reason to believe that through the ordinary channels of excretion the fever poison passes out of the system. It is certain that return to health is coincident with return to normal activity of the organs of secretion and excretion. Hence the continued use of the customary sweet spirits of nitre finds justification ; the vinum ipecacuanhæ in diaphoretic or expectorant doses ; the acetate, citrate, and bicarbonate of potassa, and other mild diuretics ; and

the occasional laxative of senna, rhubarb, castor oil, or buckthorn when the bowels are confined.

My own limited experience does not lead me to repose much faith in aconite or other nerve sedatives as febrifuges. It is very improbable that the morbid heat production is at all influenced by these drugs, or that they are in any marked degree antipyretic. (2.) The second indication, to support the vital forces, includes all food and stimulants, as well as the hypnotics and anodynes which you give to procure sleep and relieve pain and restlessness. Doubtless an important advance in rational therapeutics has been made since bleeding and depressants in the treatment of fevers were abandoned, since Todd taught us to use alcoholic stimulants more freely and Graves fed fevers. And yet just here caution and judgment are needed. I am convinced that many cases of continued fever do better without a drop of wine and only a moderate supply of liquid aliments. Others do better with a little wine or whiskey every two, three, or four hours, and an abundance of pure milk. Sometimes it is advantageous to begin the stimulant treatment early, as where the tendency to death is markedly by asthenia. We must combat the fever heat by our cold baths and quinine at the same time we stimulate with alcohol. Restlessness, wakefulness, and delirium must be controlled by camphor and Dover's powder, or better still with chloral, or the bromides with hydrobromic acid. (3.) The third indication, to meet complications as they may arise, comprehends all those measures, medical and surgical, necessary to arrest hæmorrhages, check diarrhœa, stay the progress of ulcerations, etc., attention to which is necessary to save the life of the patient. (4.) The fourth indication, which we can happily do much to fulfill, is to restrain as far as possible morbid heat production, or to save the tissues from its toxic effects.

* * * * *

Can anything be done to lessen heat production? Quinine in large doses is, I believe, the only safe antipyretic which even temporarily lessens organic combustions. Salicylic acid is of limited and doubtful utility. Clinical experience has determined that quinine is a veritable antipyretic, and therefore, in a sense, specific in all fevers.

A few years ago we should have shuddered at the suggestion of

giving to a child three years of age, laboring under a fever heat of 105° F., five grains of quinine every hour, with the view of bringing down the fever; now we find by experience that such doses produce no immediate bad effects, and that we can obtain a fall of several degrees by a few doses. Much larger doses may be given to adults, generally with gratifying results. Any cinchonism that ensues is of transient duration. The quinine in dose of a couple of grammes is often conjoined with the cold bath, with more marked antipyretic effect.

It is not claimed that the antipyretic cuts short the febrile processes; the most that the advocates of this treatment claim is that by virtue of its anti-fermentative action on the blood or its tonic effect on the tissues, or by virtue of being a *germicide*, quinine restrains excessive waste, promotes assimilation, checks the riotous production of bioplasm, and thus rescues the tissues, and especially the heart, from the destructive effects of high heat. If it acts as an antiseptic or germicide, it is certainly not very successful in its work, as it does not cut short the fever. To do good its use must be persevered in, and it must be given boldly. Whenever the temperature reaches 104° F. the quinine treatment must be commenced, and it must be given in repeated large doses at short intervals till the temperature fall to nearly the normal figure. (Ten grains an hour to an adult will bring down the fever heat after a few doses to nearly the normal).

The next antipyretic to be mentioned, and probably the first in importance, is cold, applied in the form of cold baths, sponge baths, wrappings of ice-cold water, or ice-bags.

Twenty years ago it would have been considered madness to take a child, in the first stage of scarlet fever, manifesting delirium or stupor from febrile calorification and the force of the virus, immerse it in cold water, and keep it there for several minutes, pouring (it may be) cold water on the head of the child till rigor supervened, the thermometer indicating the point at which the child should be removed from the bath. Now this is done with seeming impunity, and is countenanced by good clinicians as legitimate practice. Some of us country physicians think that in desperate cases we have saved life by these means. In ordinary practice cold baths are inconvenient, and our patients are shy of this mode of treatment; cold

sponging is much resorted to as a substitute. The patient is stripped of his clothing and laid on a rubber cloth; he is rapidly sponged from head to foot with ice-cold vinegar and water till the temperature falls from 104° or 105° to nearly 100° F.; then he is wrapped in a dry flannel blanket, and returned to his bed. The cold sponging is repeated whenever the thermometer indicates 104° F.

As to the results of the antipyretic treatment, after an experience of nine or ten years, we cannot speak very confidently. The immediate effects are generally very salutary, but the fever runs on; repeated baths somewhat exhaust the patient, and our large doses of quinine may do lasting harm.* Certainly hospital statistics do not speak very encouragingly for the antipyretic treatment of fevers.† But clinical statistics are notoriously unreliable. It is to such statistics that homœopaths appeal, and we know with how little reason. The antipyretic system seems to be theoretically sound, and we have probable yet to learn how it may be most safely and efficiently managed. We must feel our way along, proving all things and holding fast that which is good; we must persevere, hopeful; follow the best lights; where certainty is impossible be content to remain in doubt; indulge no vain dreams; obey the dictates of common sense.—*Boston Med. and Surg. Journal*.

Dr. Edward Warren (Bey), our eminent Paris correspondent has just received the decoration of Chevalier of the Legion of Honor.

* "If administered in heroic doses it frequently overdoes the work required of it; it produces a cinchonism which adds to the burdens of the already struggling system, whilst it increases the derangement of the nervous centres and intensifies the disturbance of the digestive function." (Dr. Edward Warren in *Medical Record*, vol. xi., page 46.) See also Peters in the *Medical Record*, vol. xv., page 511. "Professor Lindwurm cautions against its use in large doses in *weak heart*." "Professor Binz shows that large doses may produce death by paralyzing the heart." Niemeyer abandoned large doses. Woods and Bartholow speak of its irritant action on the alimentary canal.

†See *Medical Record*, November 9, 1878, page 386, for statistics which show that in Bellevue Hospital the antipyretic treatment has not proven to be of certain therapeutic value. According to the *Medical Record*, vol. xv., p. 510, the mortality of several of the continental hospitals has greatly increased under the treatment.

SYPHILIS IN RELATION TO MARRIAGE.

In two papers published in the *Gazette des Hôpitaux*, January 7th and 14th, 1878, M. Alfred Fournier discusses the important question of syphilis and marriage, and gives the following as the conditions under which a man who has had syphilis may be allowed to marry.

(1.) *Absence of Actual Symptoms of Syphilis.*—Of course the presence of the slightest syphilitic lesion ought to prevent marriage.

(2.) *Advanced Period of the Disease.*—The most dangerous persons are those who marry during the first two years. In such cases, the wife as a rule contracts syphilis, and the same holds good as regards the offspring. Marriage ought not to be thought of until a minimum period of three or four years have elapsed since contagion. The longer the interval the greater will be the chance of escape of both wife and children.

(3.) *A Certain Period of Immunity Since the Last Symptoms Disappeared.*—It is impossible to fix this exactly; but, as a rule, the author would say about eighteen months to two years.

(4.) *A Non-Menacing Character of the Syphilitic Diathesis.*—If the disease have been mild, and easily amenable to treatment, and if the various lesions have been only slight and superficial, the conditions are excellent with regard to marriage.

The following cases are unfavorable for marriage: *a.* Those which, without being very severe, are nevertheless characterized by constant repetition of the same kind of lesions, especially in the mouth of the penis, although these lesions may be quite superficial. *b.* Cases which are severe by reason of intensity of the morbid action, revealed by the multiplicity or gravity of the symptoms, or by lesions which tend early towards a tertiary form. Cases which resist treatment and where the viscera are affected. *c.* Cases in which some important organ has been involved, *e. g.*, the brain: cerebral syphilis is especially dangerous because of the nature of the organ implicated, and also because of the relapses which will be almost sure to occur.

It is most important that the medical adviser should study minutely the *quality* of the syphilis in each case that comes before him, and give his prognosis accordingly.

(5.) *Sufficiently Prolonged Specific Treatment.*—This is the condition *par excellence*. It is treatment that lessens the dangers of syphilis and constitutes the best safeguard against the risks the patient runs. We can now affirm that syphilis, treated energetically from its beginning, and during a sufficient length of time, has no tertiary stage; while syphilis, untreated or insufficiently treated, runs on to a tertiary stage, save in rare and inexplicable exceptions. Treatment diminishes and suppresses the cause of contagion, as also the chances of hereditary transmission. Moreover, it has been proved that it may suffice for a child to be born healthy, that its syphilitic parents be under the provisional influence of mercurial treatment: *e. g.*, a syphilitic woman has seven pregnancies—seven syphilitic children, which all die—she is treated in her eighth pregnancy, and a healthy child is born; the same with the ninth; in her tenth pregnancy she is not treated, and has a syphilitic child, which dies in six months; she is again treated, and her eleventh child is healthy. Time on one hand, and treatment on the other, are the two great points to be considered. Specific treatment, by successive stages, during several years, gives the best chance of cure, and, consequently, the best prospect of marrying with safety.—*The London Medical Record*.

STATE BOARDS OF HEALTH.

The following paragraphs are taken from a paper read by Dr. S. E. Chaillé, of Louisiana, at the late meeting of the American Medical Association:

In regard to State Boards of Health, the following facts deserve to be better known: After thirty years of effort by the medical profession, Massachusetts, in 1869, legislated into existence the first State Board of Health and Vital Statistics organized in the United States. This prolonged effort was, no doubt, used in conciliating that legal maxim which declares that, “no law can successfully precede its public sanction,” and serves to explain, at least, in part, the preëminent success of this Board. However, the Governor did

exercise, in the choice of the members of the Board, an amount of discretion very unusual to politicians when acting in medical matters; and the Legislature beginning with an experimental appropriation of \$3,000 for the first year, has rapidly trebled it. The acknowledged superiority of this Board is sufficiently proved by this fact, among many others, that it did at once recognize that the greatest obstacle to sanitary progress was popular ignorance, and therefore that its primary duty was to teach the people. Hence it at once organized a corps of reliable correspondents throughout the State; it solicits reports from, and issues circulation of information to, all the doctors, preachers, teachers, county and State officials, newspapers and journals in Massachusetts; and, in addition, it issues and freely distributes more than 10,000 copies of the most valuable annual health report ever published in this country. Thus, by enlightening the public, it has gained its favor, and has thereby increased its own power and the bounty of the Legislature. So great is this power that it triumphed over a financial combination of fifty slaughter-houses, and converted these health and life-destroying nuisances into sanitary blessings; it made war in Boston on the pestilence-breeding "houses of the poor," and thus so alarmed the politicians who, loving their country much, love votes, even of the sick pauper, more, that the Board summoned to its support a mass-meeting of the people and was sustained.

Some few of the other eighteen State Boards of Health—notably that of Michigan—increase the hopes inspired by Massachusetts' example; but it is a sad truth that a majority of these Boards are, through legislative or gubernatorial action, mere burlesques on sanitary science. Louisiana has legislated on *paper* a State Board of Health and Vital Statistics; but in reality we have no State, merely a city, Board of Health, organized under laws which nobody except politicians (and a designing or ignorant class of these) can possibly approve. The efforts of the "Legislative Committee" of this society to improve these laws deserve careful consideration, and probably our support. If consolation is derivable from the superior folly of others, then Louisiana is consolable; for some other States have certainly surpassed her. Georgia, Virginia, and, alas! my native State, Mississippi, have legislated State Boards of Health into existence, have imposed on the officers onerous and expensive duties,

and then have appropriated for the execution of these laws and the discharge of these duties—*not one cent!* But in any record of legislative quackery, North Carolina cannot be omitted, for her Legislature, apparently emulous to humiliate Virginia (1874), Georgia, (1875), and Mississippi, (1877), passed a similar law (1877), requiring the discharge of equally onerous and expensive duties, and then enacted "Section 5," which deserves a prominent place in that Sanitary Museum which we some day will have, as Great Britain now has. It reads: "For the purpose of defraying the necessary expenses of the Board of Health of the State of North Carolina in the discharge of its official duties, there shall be paid annually out of the treasury of the State to the treasurer of the said Board of Health, upon the requisition of the President and Secretary thereof, the sum of one hundred dollars."*—*Pacific Med. and Surg. Jour.*

QUEBRACHO, A PALLIATIVE REMEDY IN DYSPNŒA.

Dr. F. Penzoldt, of Erlangen, (*Berl. Wochenschrift*, Nov. 9, 1879), narrates some experiments, both on man and animals with a new drug, the bark of *Aspidosperma quebracho* (*Apocynaceæ*), sent from Brazil, where it is reputed to have antipyretic properties. The form of preparation used throughout was a watery solution of an alcoholic extract of the bark, ten parts of the latter being percolated with one hundred of alcohol for several days, and the liquid filtered, evaporated to dryness, and the residue dissolved in twenty parts of water.

The main results obtained in frogs was complete motor paralysis of central origin, respiratory paralysis, and diminished frequency of the pulse, independent of irritation of the vagus. In rabbits and dogs, motor paralysis and dyspnœa, increasing with the dose administered, were noticed. The dyspnœa in the rabbits, however, appeared to depend on retardation and deepening of the inspirations;

*It is gladly announced that on March 14, 1879, North Carolina enacted a much improved Board of Health law, which is, however, still defective, specially as to an adequate appropriation.

while in the dog the inspirations were accelerated. In the latter, also, there was salivation.

Experiments on animals with artificial fever, produced by injecting putrid fluids, showed no decided reduction of temperature, and hence quebracho is probably not, as was supposed, an antipyretic. It should be added that it is not an antiseptic, but only temporarily retards putrefaction. The results obtained in actual cases of fever in men were also negative; but Dr. Penzoldt thinks that, considering the close chemical relationship between the alkaloid "aspidodermin" which Baeyer has extracted from quebracho-bark and quinine, the subject requires further working out in this direction.

By the accidental observation of a patient with pleurisy and emphysema, on whom the anti-febrile effect quebracho was being tried, Dr. Penzoldt was led to try the bark in various forms of dyspnoea, depending on emphysema, bronchitis, phthisis, pleurisy, etc., and obtained remarkably good results. A teaspoonful of the above mentioned solution was given two or three times a day. The most marked objective phenomenon after its exhibition was a reddening of the previously cyanosed or livid tint of the lips and face. In a case of emphysema where the patient was blessed with a nose the seat of acne hypertrophica, the ordinary violet-blue color of the organ became fiery red, and excited the surprise of the other patients in the ward. The respirations generally became deeper and less frequent, and the patients expressed themselves subjectively much relieved. The first feeling after taking the drug was one of warmth in the head; many said that they had less desire to cough, and that they found expectoration easier. Occasionally sweating occurred, and in some cases abundant salivation. No bad effects were noticed with the dose mentioned.

Dr. Penzoldt finds that the addition of quebracho solution to the blood, in the presence of oxygen, makes it assume a bright red color, and he is inclined to think that possibly the blood is rendered capable of taking up more oxygen than usual, and carrying it to the tissues. This is, however, merely a provisional hypothesis, and at present there is no satisfactory explanation of the fact that, while moderate doses of the extract alleviate dyspnoea in man, large doses cause dyspnoea in the lower animals.

As yet, quebracho is not a commercial product, but the *wood* is

imported in large quantities for tanning purposes. The action of an extract of the wood is similar to that of the bark, but weaker. The alkaloid aspododermin affects the frog, on the whole, just as the extract of the bark does.—*Medical Times and Gazette*, July 12.

THE HAVANA COMMISSION.

Dr. Chaillé, Chairman of the Havana Commission, writes as follows, under date of July 18 :

As to the sanitary commission of Havana and of its harbor, it would be difficult to devise conditions more favorable to propagate disease. Built upon thin layer of earth which covers extremely porous coral rocks, this foundation is deeply saturated with the excrements of many thousands of human beings, and of animals, continuously deposited throughout a long series of years. Nothing can be worse or more offensive than the privy system of Havana. Associated with the evil hygienic conditions of the city the harbor is, if possible, in even fouler condition.

This harbor, about one mile long, two-thirds of a mile wide, and some thirty feet deep in the deepest places, has a difference between its minimum low, and its maximum high tide of less than two feet; and into this almost stagnant pond is daily poured the sewerage of the city, the offal of the slaughter-houses, and the refuse from at least two large hospitals habitually infected with yellow fever and located on the very edge of the harbor. The fœcal odor from this harbor is often distinctly perceptible.

Among other things done I, at the suggestion of Dr. Daniel M. Burgess, of Havana, to whom I owe much, have inspected the ballast sold to and transported by ships from this port. Repeatedly has the ballast from this port been accused of causing outbreaks of yellow fever in ports of the United States, and as repeatedly has this been discredited. I have no hesitation in asserting as the result of personal examination, *that if there be anything* whatever which can serve as fomites to transport yellow fever poison that the ballast from this port appears to be eminently fitted for this purpose. In my

opinion, the National Board of Health should at once adopt such measures as may be needful to protect our ports against the dangerous risks they are subjected to by all ballast from this port.

Dr. George M. Sternberg, Secretary of the Commission, says :

I find that the air of our laboratory is loaded by minute spherical organisms, and contains bacteria not distinguishable from bacterium termo. I have made some experiments for testing apparatus designed for the purpose of keeping putrid fluids germ-proof, using for my test the liquor from the interior of an unripe cocoanut. This liquor possesses properties which will, I believe, make it of great value. * * * It is transparent as water when the nut is not too ripe, is contained in a germ proof receptacle (the cocoanut), and when exposed to the air, bacteria and other organisms develop with astonishing rapidity. In my first experiment two portions from the same nut were placed in small beakers, one exposed to the air and the other protected by the glass cover and bell-jar (Lister's apparatus), with previous precaution of heating apparatus to 320°. The following morning the portion exposed to the air was milky in appearance and loaded with bacteria large and small, and had upon its surface a pellicle containing the cells or some fungus; the portion under the bell-jar was clear as water. I have succeeded in keeping this liquor in quantity for three days in a Florence flask, made germ-proof by heating to 320° Fahrenheit, and provided with a cotton germ-filter.

I have made several good negatives of bacteria developed in cocoanut liquor for the purpose of testing my lenses and apparatus. I propose to continue the experiments commenced during the ensuing week.—*National Board of Health Bulletin*, July 26.

ANOTHER VERSION OF THE HISTORY OF THE INFECTED "PLYMOUTH."

All the accounts heretofore given of the U. S. Steamer Plymouth lead to the inference that this vessel was laid up during the winter at Portsmouth for the purpose of freezing out the lurking disease poison, and that the winter being exceptionally cold, ice formed in

all parts of the vessel. Now we learn from the *Medicus* in the *Bos-Med. and Surg. Journal* (July 24, 1879) the following :

A few facts concerning the condition of the U. S. Steamer Plymouth, during the winter of 1878-79, may be of interest at the present time, as some published reports concerning her are not quite accurate, or omit important points. The Plymouth arrived at Portsmouth, N. H., December 1, 1878, where she remained sixteen days, during which time she was heated by steam, rendering her comfortable for officers and crew. She arrived in Boston harbor, December 17, 1878, and left for the West Indies March 15th, 1879. During this time she was warmed by steam and occupied by her officers and crew, except for about four weeks, thirteen days of which time she was in the navy yard dry dock. For this time her officers and marines lived on shore, and her crew were transferred to the receiving ship, with their clothing and bedding. While in dock the Plymouth was fumigated three times, one hundred pounds of sulphur being used. Most, but not all, the stores were removed from the ship. The cold was such that ice formed and remained several days in most parts of the ship, but much of the time there was a fire in a coal stove in the fire room for the use of the workmen.

Before her arrival in Portsmouth the Plymouth had seven cases of yellow fever, three of which were fatal. On March 21, 1879, six days after leaving Boston, and without touching at any port, yellow fever reappeared, when the Plymouth started for Portsmouth. Two cases occurred, one fatal.

On her first arrival in Portsmouth the medical officer recommended that the Plymouth be put out of commission. While frost will put a stop to the progress of an epidemic of yellow fever, it is clear that a long-continued temperature considerably below the freezing point is indispensable for the protection of a ship once impregnated with the poison, if cold is relied on for the purpose.

A Russian physician, M. Malaovsky, struck by the prevalence of short-sightedness among literary men, proposes that books should be printed in white ink on black paper, and he has made experiments with fifty persons which tend to confirm his view.—*Weekly London Times*.

CIRCULAR NO. 6.—RELATIVE TO DISINFECTION AND
PRECAUTIONARY MEASURES.

NATIONAL BOARD OF HEALTH,

WASHINGTON, D. C., July 28, 1879.

The following memorandum on disinfection for limiting the spread of yellow fever are published as a summary of existing knowledge on this subject. This knowledge is far from being precise, and the Board has taken measures to have the effect of disinfectants, and more particularly of gaseous or volatile disinfectants, upon the lower organisms, both moist and dry, carefully investigated. This investigation will require much time, but the results will, it is hoped, repay the cost.

1. It is prudent to assume that the essential cause of yellow fever is what may for conciseness be called a "germ," that is, something which is capable of growth and propagation outside the living human body; that this germ flourishes especially in decaying organic matter of filth, and that disinfection must have reference both to the germ, and to that in or on which it flourishes.

2. Disinfection, when used in a place not infected, for the purpose of rendering filth, or foul soils, waters, &c., incapable of propagating disease germs, is a poor substitute for cleanliness, and is mainly useful to make the process of cleansing odorless and harmless. The best disinfectants for this purpose are sulphate of iron, carbolic acid, fresh quick lime, fresh charcoal powder, chloride of zinc, chloride of aluminium, and permanganate of potash.

3. The two great difficulties in destroying the vitality of the germ, of yellow fever are, first, to bring the disinfecting agent into actual contact with the germ; and, second, to avoid injuring or destroying other things which should be preserved.

4. *When the germ of yellow fever is dry or partially dried no gaseous disinfectant can be relied on to destroy it.* It must either be moistened or subjected to a dry heat of not less than 250° F. to obtain security.

5. In disinfecting or destroying infected clothing, bedding, or movable articles, *move them as little as possible while dry.* Before disturbing them have them thoroughly moistened either with a

chemical disinfecting solution or with boiling water, in order to prevent the diffusion of dried germs in the air in the form of dust.

6. The best method of disinfecting rooms, building ships, &c., is still doubtful, owing to the difficulty of destroying the vitality of dried germs.

The Board proposes to have this subject carefully investigated, and in the meantime advises thorough scrubbing and moist cleansing to be followed by the fumes of burning sulphur at the rate of 18 ounces per 1,000 cubic feet of space to be disinfected.

The sulphur should be broken in small pieces, burned over vessels containing water or sand, which vessels should be distributed in the closed space to be disinfected at the rate of one to each 100 square feet of area of floor.

7. No patented compound known to the Board is superior as a disinfectant to the agents above mentioned, and none is so cheap. Some of these patent disinfectants are good deodorants, but *the removal of an unpleasant odor is no proof that true disinfection has been accomplished.*

8. In districts where yellow fever prevailed last year the following precautionary measures should be taken :

(a) Textile fabrics of every description which were exposed to yellow fever infection during the year 1878 and which have remained packed or boxed in a closed place since such exposure, should not be opened or unrolled, but should either be burned or placed in boiling water for half an hour or more, or in suitable heated ovens, or disinfected according to the nature and value of the individual article or articles.

(b) Every house or room in which cases of yellow fever occurred in the year 1878, and since that time have remained unoccupied, should not be opened for occupation until they have been thoroughly cleansed and disinfected by persons acclimated to yellow fever.

(c) Every privy, vault, underground water-cistern, dry well, or closed cellar connected with a house in which yellow fever existed last year, and which may not have been opened since that date, should not be reopened, but if possible should be covered with several feet of earth.

(d) Every suspicious case of sickness should be at once isolated,

and every possible precaution taken to prevent infection by providing attendants who have had the disease, and thorough disinfection of all discharges from the sick. If the disease prove to be yellow fever all articles of clothing and bedding used about the sick should be burned, the house should be vacated, and every room tightly closed and fumigated with burning sulphur.

HYRTL ON THE ANATOMISTS AND HISTOLOGISTS OF THE PRESENT DAY.

A prominent characteristic of the anatomical spirit of the present age is: that practical anatomy is always retreating more and more in the background, and the microscope is supplanting the scalpel. Old and young work, or toy, with the microscope; and all anatomical investigations to be undertaken with the unaided eye are left with a sort of contempt to the surgeon; and what trash has been brought to light through perishable literature, in the department of histology. Were everything true that is written, we could then rejoice that such an abundant spring had arisen from ground so long barren. But so many discoveries have passed away just as they came. They have filled the pages of a journal—have thereby fulfilled their duty and been forgotten. Surgery alone has remained the friend of solid anatomy and dissecting; but even it cannot be regarded as a grateful friend. Surgery, in everything it does, has in view a prospect of success at healing; whilst practical medicine, great in diagnosis and prognosis, has not the same prospect of making brilliant cures, although it ascribes to itself some of the most successful cases of *bona fide* cure.

He who wishes to learn of the numerous and instructive uses to which descriptive and topographical anatomy are applied in all branches of the healing art, outside of the writings of German anatomists of a good school, will find them especially in the works of French surgeons. The physician, whose interest it is in the study of anatomy to appropriate what is the best, will not quarrel with our neighbors on the Rhine over their advantage in this regard. It is, therefore, with no foolish preference for what is

foreign, that I thus address those whose contracted views only allow them to be pleased with that which is native to their own country. It will also be granted that for the treatment of internal diseases in the present state of medical science, the knowledge of the topographical relations of organs in the diagnosis of their diseased conditions and the scientific investigation of symptoms of disease, is more useful than a knowledge of the medical controversies about their histological construction.

It may be that the old and steadfast practical anatomist, in shirt sleeves and leather apron, may not appear as elegant as his younger and microscopically inclined brother, with his kid gloves and cuffs; but the practical anatomist, even if the younger generation be dissatisfied with him, will ever receive the thanks and respect of all physicians to whatever school they may belong—*Topographische Anatomie*, p. 5., J. C. Mc. M., in *Lancet and Clinic*.

Physiological Albuminuria.—Professor Leube (Virchow's Archiv. Band LXXII., Heft 2) found that out of 119 healthy soldiers, 5 or 42 per cent. had albumen in the morning urine; while 19 out of 119, 16 per cent. had albumen in their midday urine, after marching on parade. There were no cases of blood corpuscles; the chief deposit was urates. The specific gravity showed no constant results. Those soldiers in whom albuminuria was found, were carefully examined, and were found to be quite free from pathological changes. The albuminous substance was discovered in the ordinary way, by boiling and acetic acid, but gave the reactions of serum albumen when separated and subject to the tests.—*London Medical Record*.

Trichinæ Detected by the Naked Eye.—Dr. Francis Vacher, of Birkenhead, England, says in a paragraph in the *London Lancet*, (dated Feb. 26th) that "trichinæ in pork can usually be seen without the aid of a magnifier, the flesh being distinctly speckled. The white specks come out clearly if a thin section of muscle be treated for a short time with liquor potassæ and water (1 to 8), as recommended by Dr. Parke. When the capsule is dense, the same author suggests the addition of a drop of weak hydrochloric acid. To see the coiled up worm itself all that is necessary is a good pocket lens."

THE CRONICA MEDICO-QUIRURGICA DE LA HABANA.

This is a valuable monthly periodical of which we have before us the July number. It is now in the fifth year of its existence.

We cannot help noticing among its original articles a full account of a case of "Congenital Amaurosis" spontaneously cured by the first flow of the menses, which took place in the fifteenth year of the young person. Frequently examined by competent observers no structural anomaly of the organs could explain the total absence of vision. One morning while still in bed, she uttered a loud shriek, jumped out of bed, was found by her mother under the influence of intense fright; she has seen the objects in her bedroom. She was coaxed to her bed and her mother then noticed the blood on her garment, her first menstrual discharge. She is now 22, the eyes are large and bulging, she is myopic, reads the finest prints at a short distance; but for distant vision wears concave glasses, No. 8. A recent examination shows the structures of the eye to be quite physiological.

It gives us great pleasure to notice among our Island neighbors signs of progress as instanced by the recent formation of an Odontological Society in Havana, many of whose members have, doubtless, been educated in our Dental Colleges, also, by an application to the University of that city for the establishment of an Obstetrical and Gynæcological Clinic. A Medical College in Havana attached to the University, has been for many years in a flourishing condition.

We read also that, among other diseases, the troops engaged in the recent civil war suffered much from gangrenous ulcers of the legs. Fatigue, exposure to intense heat, damp and malaria so pre-disposed the system that the sting of an insect, the chafing of the boots, a slight eruption, were sufficient to develop the gangrenous ulcers.

The New Soluble Quinine, is prepared by combining twenty parts of muriate of quinia, twelve of muriatic acid, and three parts of urea. It being soluble in equal parts of water claims attention for hypodermic uses. A much smaller quantity of quinine prepared in this way is required.

REVIEWS AND BOOK NOTICES.

A CLINICAL TREATISE OF THE DISEASES OF THE NERVOUS SYSTEM. By M. Rosenthal, Professor of Diseases of the Nervous System at Vienna. With a Preface by Professor Charcot. Translated from the Author's Revised and Enlarged Edition. By L. PUTZEL, M. D. New York: William Wood & Co., 27 Great Jones Street. 1879. Pp. 278.

Except to those physicians familiar with German medical literature, this book will be new. It comes to us with such a recommendation from Professor Charcot as to insure its early adoption by American physicians, and, moreover, the publishers have put it within the means of the stingiest and the most impecunious medical men.

Professor Charcot says in the preface to his translation. * *

“It is very certain that the materials placed before us, as well as the spirit of the work, have been derived by the author from a long career devoted to the study of disease; the care bestowed upon the symptomatic description is sufficient testimony to the fact. It is undoubtedly true that the subject could hardly have been arranged more harmoniously, nor could the pathological description appear in more vivid and striking colors; but it would be difficult to push further than has been done in this work, the constant habit of examining questions from all points of view.”

The analysis of the chapter on Cerebral Apoplexy (p. 38-55) will give a good idea of the author's method of treating the subject.

“*Pathological Anatomy and Physiology.*—Capillary hemorrhages appear as small points, nearly as large as a millet seed, and situated more or less closely to one another. They are usually found in the gray substance of the convolutions or central portions. The surrounding parts are softened, reddish, tinged with blood, the nerve fibres are separated, and the capillaries are softened, friable, and infiltrated with granulo-fatty matter. Virchow has shown that capillary hemorrhages cause either hemorrhagic infarctions in consequence of capillary embolism, or the commencement of red-softening, or finally capillary dilatations. According to Rokitansky, capillary hemorrhages may be situated so closely, as to constitute a large foyer,” (focus).

* * * "The hemorrhagic foyer rarely contains less than 3-4 grms. of blood, and more often the quantity varies from 20-60 grms. Recent hemorrhages contain the remains of small vessels which present considerable changes in their walls, in addition to blood and débris of cerebral substance."

An examination of 103 autopsies at the Vienna General Hospital gave the following results: The seat of the hemorrhage in more than two-thirds of the cases was in the corpus striatum and lenticular nucleus. The lenticular nucleus in rabbits is chiefly an organ for the transmission of motor impulses, and according to the results of Nothnagels' experiments, when injection of chromic acid are made into the anterior or middle portions, of the corpus striatum produced analogous motor disturbances. Ferrier's experiments upon the monkey and other animals, demonstrated that the corpus striatum acts upon the muscles of the opposite side of the body."

He now goes on to investigate the course and sequences of a cerebral hemorrhage. "Recovery usually takes place by the formation of false membrane, and by the secretion of a fluid which dissolves the blood clot and the débris of the cerebral tissue. This assumes a yellowish or brownish color from admixture with derivatives of hematine. The cavities thus formed are traversed by pigmented vascular bands of connective tissue and contain a yellowish fluid. These cavities are formed within two or three months after the occurrence of the hemorrhage, and are known as apoplectic cysts. In favorable cases, the connective tissue retracts, the walls approach one another and coalesce, the capillaries become obliterated and a stellated cicatrix results.

"Great importance must be attached to the secondary lesions of nutrition which are produced as a consequence of hemorrhages in the paths of transmission of motor and sensory impulses. (p. 40).

Special physiological and pathological phenomena of the motor tracts are considered one by one, with the conclusion that "the sensory fibres decussate in the middle medulla oblongata, passing through its posterior part, and through the external fasciculus of the foot of the cerebral peduncle, and terminate in the tissues situated between the cerebral ganglia in the posterior external portion of the optic thalamus, and in its connections with the occipital, and perhaps with the temporal lobe. Pathological facts serve to show

the central seat of sensibility in the brain better than physiological experiments."

Etiology.—It is pointed out under this head that rupture of the cerebral arterioles arises from the "degeneration and weakness of the vascular walls, or from an increase in arterial pressure, or from both combined, or the rupture may be due to the debilitating effect of certain diseases upon the vascular tissues, or, finally to degeneration of the cerebral tissue which has, at a later period, involved the blood vessels."

These points are further elaborated, and diagrams of the brain are given showing the external and internal distribution of the middle cerebral artery. We are indebted to the enterprise of the translator, Dr. Putzel, for the illustrations, as they do not occur in the original work.

Symptomatology is treated in an exhaustive or satisfactory way. First the general symptoms are given, interpreting the meaning of them, and secondly the special symptoms as depending upon the seat of the hemorrhage are given in detail.

Diagnosis and Prognosis.—The difference between cerebral tumors, apoplectic hemiplegia, and spinal hemiplegia are described. In the matter of prognosis very little is added to existing knowledge.

Treatment.—In treatment the author points out that "if symptoms of increased vascular tension (which goes hand in hand with increase of cerebral compression) appear after the attack, if there is turgescence or intense redness of the face, or considerable injection of the conjunctiva, if the carotids and radials pulsate with force, and if the temperature is raised, venesection should be immediately performed in strong, well-nourished individuals. Venesection should also be performed if signs appear which indicate a threatened second hemorrhage. In weak, cachectic patients, with cold skin and feeble pulse; the employment of leeches and cold applications should be substituted for venesection." * *

The hydropathic treatment in apoplexy, is given with the calmness and fairness of a master of the art of medicine. In all this work, predominance is given to the cold water treatment, and always with prudence and sound sense. For the judicious management of hydropathy, Professor Charcot applauds Dr. Rosenthal, and we can safely share the enthusiasm of the French and American translator, in their admiration for the whole work.

We wanted to enter our protest against the meagre index, but perhaps this very fault will lead the reader to plod patiently for himself page by page, and then he will not esteem our admiration misguided.

MANUAL OF THE PRINCIPLES AND PRACTICE OF OPERATIVE SURGERY. By STEPHEN SMITH, A. M., M. D. Surgeon to Bellevue and St. Vincent Hospitals, New York. Boston: Houghton, Osgood & Co. 1879. Pp. 689.

This book is the "result of an effort to realize" a request often made by medical practitioners and students, that the Handbook of Surgical Operations prepared by Dr. Smith in 1862, and which was acceptable on both sides of the lines in the late war, should be enlarged so as to include the general operations of surgery in civil practice.

It has not been many months since a manual of Operative Surgery by Stimson and another by Meares, was given to the medical public, but still there is room for this one. Its design is quite different from either of the other works.

The qualifications of the surgeon is defined, the author believing "the true estimate of them is found in the civil obligation which he assumes whenever he undertakes the care of a case. The judicious discrimination which the common law makes of the relation of qualifications to time, place and circumstances, are far more judicious than has ever been defined by any professional code." "It follows" he continues "that as conformity to the established principles of an art as a fundamental requirement of the civil obligation upon those who practice such art, a manual of this character should as far as practicable illustrate those principles."

In order to carry out this idea, the author has given frequent marginal reference to authorities consulted. Under the head of OBLIGATION, the responsibility of the surgeon is defined, not by the standard of the Code of Ethics, but upon the foundation of the opinions of Chief Justice Waite, Espinasse, S. D. Gross, C. Sédillot, Justice Tyndall, and the case of Leighton vs. Sargeant. And so through all of his teachings on these important questions the standard of judgement is that of the serious business of the world and not beautiful but dead moral ideas. So far as we know

no other work on surgery has attempted to present the legal authority of the decisions of the Courts, as bearing upon the duties of surgeons to their patients, and its value is greatly enhanced thereby.

The short chapter on the general science of prognostics most beautifully reveals the ripeness and fullness of judgment of the author. Skill in prognosis is a gift won only by careful personal observation and comparison, but to teach it to others, is a gift of a still higher character, and belongs rather to that generation of polished writers of the early part of the century than to our own times. It would be difficult to crowd in seven paragraphs so much desirable knowledge as Dr. Smith has given us in these on prognosis. The chapter on Anæsthesia is one all readers will turn to with real interest, for of late years the party lines of anæsthetics have been distinctly drawn. We are, therefore, pleased to see such a dispassionate view taken of the comparative merits of nitrous oxide, sulphuric ether and chloroform. Nitrous oxide is spoken of as safe, ether as safe and reliable, and chloroform as "rapid, certain and effective" * * "but unfortunately, sudden and overwhelming paralysis of the heart, commonly called cardiac syncope, which is beyond human skill and knowledge to foresee or prevent, occasionally causes death by it." It would be fairer to say though, about anæsthesia generally, that it is a condition of danger, and the danger is due not to the specific influence of any particular anæsthetic agent, so much as to the condition itself. For we have seen all but fatal syncope from nitrous oxide, from bichloride of methyl, but never from chloroform or ether, and it is well-known that deaths have occurred from all of these agents named.

The dressing of wounds is treated with minuteness and good judgment. The antiseptic, the ordinary, the open, and the hot water treatment all occupy the attention of the author. Thorough directions are given as to all the details of care for the patient, as though the author was exceedingly impatient with slovenliness. We do not see how a surgeon could do better than follow out the steps here given one by one, in order to put his patient in the most favorable condition for recovery.

In the emergencies of surgery, preference is given to Dr. Howard's plan of artificial respiration, although Marshal Hall's and Sylvester's are mentioned.

We must confess to some disappointment that Dr. N. R. Smith's anterior splint is not mentioned, while the suspensory splint of Dr. Hodgen is given prominence. But the whole subject of fracture is brought down to the latest day, even Pilcher's treatment of fracture of the wrist not being too recent to find a place.

The whole range of operative surgery has been treated in this volume except the organs of special sense, and the touch of the master is everywhere evident. No such work on operative surgery has emanated from an American source before, and we are mistaken if this volume will not be preferred to the more costly foreign ones that for so long a time have served as the guide of surgeons, and the basis of authors.

The mechanical execution of the volume is excellent, the type clear and distinct.

METHOD FOR PERFORMING POST-MORTEM EXAMINATIONS. Adapted from the German Regulations of 1877, By THOMAS F. WOOD, M. D. Secretary of the North Carolina Board of Health. Pp. 32. Raleigh: The Observer, State Printer and Binder. July, 1879.

The duty of making medico-legal post-mortem examinations, devolves upon the County Superintendents of Health, by the new State law, and the pamphlet was issued by the Board "for the purpose of putting before those officers the latest and most approved plans for conducting such examinations, and to establish a uniform method." The ultimate design of this movement is not only to collect statistical information as to the causes of death, but also to furnish at a glance such items as will enable the law makers to institute the reforms in coroner's inquests as may be thus indicated.

This pamphlet was modeled after the painstaking German method, so highly approved by Professor Virchow.

PHOTOGRAPHIC ILLUSTRATIONS OF SKIN DISEASES. By GEORGE HENRY FOX, A. M., M. D. Forty-eight covered plates taken from life. Price \$2.00 a part.

The second part of Dr. Fox's illustrations reassures us that there is more to be learned from photographic illustrations than from the more brilliantly colored lithographic plates. In the present number we notice especially the case of Itchthyosis, as being a more

truthful portrait than any we have seen. One has almost to pass the finger over the picture to satisfy the senses that the scales are not real. The three other photographs in this number are quite as instructive as this, and we are confident that experience will award the palm to this method of teaching skin diseases. We recommend to our readers to become subscribers at once, and they will not regret it.

THE AMERICAN ARMAMENTARIUM CHIRURGICUM. Geo. Tiemann & Co., 67 Chatham Street, N. Y. Pp. 589. With 2,250 first-class wood engravings.

A sumptuous volume descriptive of surgical instruments made by Messrs. Tiemann & Co., with illustrations everywhere abounding. The mechanical devices here figured show a fertility of resource which would be creditable to mechanics in any departments of mechanics. The book is sent to physicians for \$1.00, "*the actual cost of binding,*" and 35 cents added for postage.

Inventors, novices, practitioners, young surgeons, old surgeons, instrument makers, authors, and very many other people can afford to look over Tiemann's Catalogue. Especially do we ask inventors to quit "inventing" until they consult these pages.

The "Post-Partum Artery."—A student was "plucked" at Bellevue Hospital Medical College, in 1878, for giving the following answer when asked, in his final examination, "What would you do for post-partum hemorrhage?" "I would tie the post-partum artery." It is needless to say that he was "passed" by the learned faculty of another college the present year.—*St. Louis Clinical Record*. Are we to infer from the latter statement that the student applied himself assiduously to study, *post pluckum*?—*Michigan Medical News*.

[The publication of the above is *not* a banter for members of the N. C. Board of Examiners to relate their experience. We think though it would be rare reading to go through the answers to questions given by some *graduates*.]

MEDICAL ANNOTATIONS.

Valuable Application of the Clinical Thermometer.—One of the most valuable applications of the thermometer is to the mouth of a garrulous patient five minutes, to enable the doctor to have quiet breathing time in which to write his prescription.

Sudden Death from Exploration of the Rectum with the Hand.—We see the announcement that a patient recently died after exploration of the rectum of the hand, in search of carcinoma of the bowels. Post-mortem examination revealed a rent in the peritoneum. A reasonable prudence has long ago dictated that such methods should be held in reserve only for extraordinary occasions.

A Third Corpuscular Element in the Blood.—Dr. Norris exhibited at a *conversazione* given by the College of Physicians and Surgeons, of London, on the 2d of July, a series of transparent micro-photographs, demonstrating the existence of a third corpuscular element in the blood. It has hitherto escaped recognition because it possesses the same color and refractive index as the *liquor sanguinis*, and is therefore invisible when submerged.

Ponder! Ye Anti-Blood Letters!—The following paragraph from the *History of Medicine in New Jersey*, by Dr. Stephen Wickes, contains the following anecdote: An old friend and neighbor of mine informed me that my great grand-father and my grand-father bled him when he was about sixteen while in New Jersey. When a young man he removed to Pennsylvania and settled near my father, and he bled him; later in life I bled him; and in advanced life, being of plethoric habit, my son also bled him; making five successive generations in the family, who bled the same subject, with marked relief, and he lived to be eighty-five years old.

Precepts for Sea-Bathing.—Dr. Conguet-Alberto gives hygienic rules for sea-bathing, the sum of which are compressed in the quaint precepts of Dutroleau, on the mode of those of the Academy of Salerno, read thus:

1. Avant le baign tu marcheras, Pendant un bon petit moment.
2. Puis tu le déshabilleras, Sans hâte, mais rapidement.
3. Dans l'eau tout de suite entreras, Sans flâner au bord nullement.
4. Tout d'un coup tut'y plongeras, De la tête au pied carrément.
5. Dix minutes y resteras, Toujours, toujours en mouvement.
6. Enfin, lorsque tu sortiras, Tu te vêtiras chaudement.—*London*

Medical Record.

TO OUR READERS.

WINE PRODUCTS OF NEW JERSEY.

This State is becoming celebrated for its wines. Some of the richest in the world are produced in New Jersey by Mr. A. Speer, whose name has become celebrated as a producer of strictly pure unadulterated Port Grape Wine. The wine of Mr. Speer is not bottled or put in market until it is four years old, and has become thoroughly fine and mellow. It has proved itself a wonderful assistant to physicians, who prescribe it from the fact that they have hitherto found it difficult to obtain a pure Wine. This Wine is recommended for debilitated persons; and is given to consumptives. The difficulty of getting an imported or even a pure California Port is well understood to be so great as to preclude Doctors from allowing their patients to run the risk of its use. Mr. Speer being aware of this fact has taken the utmost care in the making of his Wine, so as to supplant the imported Wines by producing a genuine article. His Wines are known by chemists to be pure and the most reliable for medicinal purposes. The Druggists throughout the country sell it, as bottled by Mr. Speer.—*N. Y. Tribune*. Sales-room 34 Warren Street, N. Y.

BOOKS AND PAMPHLETS RECEIVED.

National Board of Health Bulletin, Nos. 2, 3, 4, 5, 6 and 7.

The Summer and its Diseases. By James C. Wilson, M. D. American Health Primer. Lindsay & Blakiston. Philadelphia, Pa. Price, 50 cents.

Laryngeal Tumors and Tuberculous Meningitis. By E. Fletcher Ingals, A. M., M. D. Reprint from Chicago Medical Journal and Examiner for July, 1879.

The Demand for a Woman's Medical College in the West. Address by Charles Warrington Earle, M. D. Waukegan, Ill. 1879. Gazette Printing Office. Pp. 13.

Chronic Spasmodic Stricture, or Urethriasmus. Second paper in reply to Dr. H. B. Sands, by F. N. Otis, M. D. Reprint from the Hospital Gazette. 1879. Pp. 22.

The Future Influence of the John's Hopkins Hospital on the Medical Profession of Baltimore. By J. VanBibber, M. D. Baltimore. Innis & Co. 1879. Pp. 22.

Memoranda on Poisons. By Thomas Hawkes Tanner, M. D., L. S. Fourth American Edition. 32 mo. Pp. 200. Lindsay & Blakiston. Philadelphia. 1879. Price 75 cents.

Manual of the Principles and Practice of Operative Surgery. By Stephen Smith, A. M. M. D. Surgeon to Bellevue Hospital. New York. Boston: Houghton, Osgood & Co.

Contagious Pleuro-Pneumonia or Lung Plague in Cattle. By Robert White, M. D. Assistant-Surgeon U. S. M. H. S. Reprint from Boston Medical and Surgical Journal. Pp. 10.

Transactions of the South Carolina Medical Association. Twenty-ninth Annual Session. Held in Charleston, S. C., April 8th and 9th, 1879. Charleston, S. C. Edward Perry, Printer.

On Diseases of the Stomach, the Varieties of Dyspepsia: Their Diagnosis and Treatment. By S. O. Habershon, M. D. London. Third Edition. Pp. 323. Lindsay & Blakiston, Philadelphia. 1879. Price \$1.75.

The Medical Summary. A monthly Journal devoted to Practical Medicine and the Collateral Sciences, &c., &c. Editor and Proprietor, R. H. Andrews, M. D. Lansdale, Pa. Vol. 1, No. 5. Price \$1.00 a year.

Precautions Requisite in the Administration of Ergot. By J. W. Comptom, Professor Materia Medica. Evansville, Indiana. Reprint from Detroit Lancet, June, 1879. Geo. S. Davis, Publisher, Detroit, Mich.

Morbid Reflex Excitability. By A. W. Griggs, M. D., West Point, Ga. Emerius Professor of Prin. and Pract. Medicine. Atlanta Medical College. Reprint from Transactions Medical Association. Georgia. 1879.

American Nervousness: Its Philosophy and Treatment. By Geo. M. Beard, M. D. New York. An address delivered before the Baltimore Medical and Chirurgical Society. Reprint from Virginia Medical Monthly, July, 1879. Pp. 24.

A clinical Treatise on the Diseases of the Nervous System. By M. Rosenthal, Professor of Diseases of the Nervous System at Vienna. With a Preface by Professor Charcot. New York. Wm. Wood & Co., 27 Great Jones Street. 1879.

Die Folterkammern der Wissenschaft. Eine Sammlung von thatsachen für das Laienpublikum von Ernst von Weber, Ritter hoher Orden, &c., &c., &c. Sechste sehr vermehrte Stereotyp-Auflage. Berlin und Leipzig. 1879. Verlag von Hugo Voigt. Pp. 75.

Complimentary Dinner given to Professor S. D. Gross by his medical friends, in commemoration of his fifty-first professional year. This little book will be prized by the many admirers of Professor Gross, as a valuable memento, especially for the very fine portrait of America's great surgeon.

The Advantages and Accidents of Artificial Anæsthesia: A manual of Anæsthetic Agents, and their Employment in the Treatment of Disease. By Lawrence Turnbull, M. D., Ph. G., &c., &c. Second Edition. Revised and Enlarged. With twenty-seven illustrations. Pp. 322. Philadelphia. Lindsay & Blakiston, 1879. Price, \$1.50

NORTH CAROLINA MEDICAL JOURNAL.

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THOMAS F. WOOD, M. D., }

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ORIGINAL COMMUNICATIONS.

PUERPERAL CONVULSIONS.*

By R. I. HICKS, M. D., Casanova, Fauquier, Co., Va.

In the course of a practice extending through twenty years, I have had about an average number of cases of puerperal convulsions. It has so happened that it has been my most excellent fortune to have lost no case. Whether this has been the result of treatment, or simple good fortune—mere fortunate coincidence, I shall not presume to say.

One case, to which I was called, was destroyed by the first convulsions; she had been dead about one half an hour on my arrival.

Two cases, I saw die while I was a medical student, in the charge of another physician. Had he been in possession of the remedies of the present day he might have saved them.

My observation has brought me to the recognition of two typical forms of eclampsia. Clinical facts I may add generally precode the

*Read before the Medical Society of North Carolina at Goldsborough, N. C., and published by request,

establishment of theories. For instance, I will cite two cases as illustrative of the two types.

Case 1st. was that of a Mrs. E., she was young, of fair complexion, of good health, and about 21 years of age. She was admirably developed, and in her first labor, without premonition of any kind, without œdema—but with a bright face—a glistening eye, in a condition of apparent cerebral excitement, in the first stage of labor, she went suddenly into a violent convulsion. Being called without delay, I bled her in both arms and applied a new scarificator to the nuchum or posterior cranium. She bled freely from all these points, without a return of the convulsion or any unpleasant symptom, and with no further interference she went to a perfect labor in about fourteen hours. Her memory with regard to events occurring during the intervening period was obliterated.

Other similar cases, with similar results have occurred to me. One in particular, occurring in a lady rather advanced, and who had been the mother of eight or ten children previously, I ascribed the convulsion to laudanum taken in the commencement to relieve incipient labor pains, mistaken for colic.

In all such cases as the above, in my judgment, the lancet cannot be dispensed with; there is cerebral congestion which must be relieved.

In August, 1876, I was called to see another case. It was in the person of a young woman—a primipara. She had had no convulsion, but the unusually dull, heavy expression of her face, had alarmed her parents, and induced them to seek medical advice for her. I found her face puffy and expressionless, and her legs and feet œdematous. She was very stupid. I put her on purgatives and diuretics and left her. After some 36 hours, I was again sent for; I found she had just had a convulsion. I bled her, purged her, and put her on diuretics. Convulsions did not recur, but stupor steadily supervened. The kidneys did not resume their eliminating function properly. My friend, Dr. Young was called in consultation. As the stupor increased and the urine continued heavily laden with albumen, after watching the case carefully for two days, we concluded, that without relief she would speedily pass into a state of profound coma and die. We, therefore, determined to bring on premature labor. Concluding, as I think, very properly, that this

only would restore the proper function of the kidneys. The membranes were therefore ruptured, labor came on, a premature birth was the result, the child surviving about 24 hours. The kidneys resumed their function and perfect recovery soon followed.

When the kidneys are interfered with in their action, albumen is generally eliminated. When you find the urine loaded with albumen the urea is not eliminated and uræmic poisoning is the result. If the functions of the kidneys can be properly restored, these symptoms, I think, will disappear, and stupor and convulsions may be warded off. Recently, I attended a woman in labor, whose face and legs were œdematous. My attention to her during labor was very strict, without which I think she might have gone into convulsions. But whenever any symptom manifested itself, I applied chloroform until the labor was finished. The next day I was called to see her on account of the sudden alarm of the family. In their homely style, they informed me that the woman was frenzied. She seemed conscious of the fright she had caused them, but told me there was nothing the matter with her, except she had lost her memory, which I found to be the fact. Purgatives and diuretics soon restored the functions of the kidneys, and brought perfect relief which, I think, was now possible as the pressure of the gravid uterus was relieved.

Although this is no new disease, being as old as the medical profession, its etiology is still in dispute. A lively investigation is going on at present, which I hope may end in the settlement of this vexed question. Frerichs ascribes eclampsia to uræmic poisoning. Altogether this theory is untenable because of the fact admitted by Fordyce Barker and others, that convulsions may occur with or without albumen in the urine. I believe this is one cause but not the sole cause. I believe that uræmic poisoning may and does produce convulsions whether dependent or not on the puerperal condition.

My friend Pyatt, has formed a beautiful theory of transmitted irritability from the enlarged ganglia issuing from the sacral foramina, that may destroy the equilibrium of the vaso-motor nerves of the kidneys—relaxing its blood-vessels and permitting the elimination of the albumen from the blood. But should this irritability be transmitted to the brain, eclampsia would also ensue. I do not see why mere physiological enlargement of nervous ganglia dependent on

the increased demands of a physiological process can be counted a condition of irritability. According to Robert Lee this ganglionic enlargement is a constant accompaniment of pregnancy.

Traube has a theory dependent on anæmia of the brain, dependent on gain on an increased amount of serum in the blood and arterial tension. He speaks as though it was a settled fact that as soon as this anæmia extends from the hemispheres to the mesocephalon, convulsions set in preceded by coma. But if this were so, how is it that agents that are most efficient in controlling convulsions are such as are considered most efficient in producing cerebral anæmia—such as venesection and chloroform. Frankenhausen has discovered that the nerves of the uterus and kidneys are much more intimately connected than has heretofore been supposed. Drs. Fordyce Barker and Braxton Hicks look for an explanation of eclampsia in this discovery. I do not see how much light can come from this source. If there is any significance in this fact its meaning is that, if the nervous connection between the uterus and the kidneys is very intimate, being supplied by the same plexus, therefore the sympathy between them should be stronger, and when one becomes diseased we may expect disease in the other—disturbance taking place in one should be followed by disturbance in the other. Now is this the case? Do we find a coincidence of disturbance in these organs? By no means. What physician proceeds to hunt for disease in the one, because he has found disturbance in the other? This is a fine spun suggestion of Frankenhausen, from which very little fruit may be expected.

Is a condition of actual disease in the kidney necessary to the elimination through it of albumen? Braxton Hicks and Fordyce Barker think it may turn out that some subtle substance floating through the circulation makes a simultaneous impression on the brain and the kidneys, producing eclampsia and nephritis. They are brought to this conclusion by the fact that when the urine may have been perfectly free from albumen, it will be found laden with it immediately after a convulsion. I think it will be found that pressure producing functional disturbance will be amply sufficient to cause an infiltration of albumen and a retention of urea in the blood. It would require more time than I am willing to consume to go at length into the many explanations of eclampsia, especially

as I think they can be accounted for on account of pressure and arterial and venous interference acting mechanically.

To recur to my two cases which I have spoken of as typical, I will repeat that I think they depended for their cause on the same thing acting in an essentially different manner. I ascribe both to mechanical pressure. In the first case, nothing saved the patient except the evacuation of blood, relieving the arterial tension and venous congestion. In the second, nothing but premature delivery. In the first case bleeding removed the cerebral congestion. In the second premature delivery relieved the oppressed kidney.

Formerly it was supposed that the normal amount of blood circulating through the cerebrum could not be augmented—that its unyielding bony structure was a complete barrier to any addition to its contents. This view is now discarded. The human heart is a powerful mechanical contrivance that sends with great energy its contents through the minutest capillaries to the most distant points. While the bony structure does not yield, these capillaries can be, and are frequently distended by the propelling *vis a tergo*, which is manifestly variable. It may be so feeble that fainting and prostration may ensue, and the blood measurably desert the capillaries. It may send such a rushing current as shall tear asunder the coats of the arterial passages. It may fall short of this and simply distend them beyond their ordinary limits. This distension may be kept up by some obstruction or by this continued force in the rear—in either case resulting in congestion. That this congestion does exist is proved by the injected condition of the arterioles in the back chamber of the eye as shown by the ophthalmoscope. Nay, more, I am not sure but that it can be measured by the cunningly devised mechanical contrivances of the present day. Now, from this cerebral tension, from either of the above causes, one form of puerperal convulsions is developed. Why should this result oftener in the puerperal condition than otherwise? Because extra demands imply extra efforts; and the double tax being layed upon the impregnated woman, of meeting the demands of the foetus in utero, as well as her own, her nutritive functions are correspondingly increased. Her appetite is improved—her digestion is increased, more and richer blood is formed and her whole system is toned up to a higher key. Her heart beats with more rhythmic power and her venous

system is fuller. Now, if the human machine was perfect, an exact equilibrium would always be preserved, and our "craft would be endangered if not actually set at naught." But as it is, with its present imperfections, now and then, it may be from a simple excess of these energies, it may be from the mechanical pressure of the growing foetus upon the great viscera and circulating system, cerebral congestion results, culminating in puerperal convulsions. The how or wherefore of this effect is as unnecessary to inquire into, as it would be to inquire why a blow on the head may produce similar results. Any means which can cause pressure on the brain may eventuate in convulsions, whether it be excessive cardiac energy or mechanical obstruction as in the case of embolism.

The first case quoted above I take to have been one of cerebral congestion—the treatment pursued confirmed this view.

Now as mechanical pressure upon the great viscera and blood vessels may produce cerebral congestion, in the same manner pressure may cause albuminuria. Functional interference inevitably leads to diseased action and organic change. This is one of the laws of the vital economy. In this way and on this principle changes are wrought in the kidney, in which the albumen of the blood is drained away and the urea is retained. In regard to the deleterious effect of this urea, which you all know is an excrementitious product of the body, there seems to be but little difference of opinion. Its action may be two fold. It may directly poison the blood and indirectly the brain or it may produce cerebral congestion by paralyzing the function of the kidney.

This condition of the kidney tends to general oedema, which follows serous congestion of the brain, and furnishes another form of puerperal convulsions, traceable to the same cause.

Therefore we may have cerebral congestions the result of plethora, also the result of serous distension—the one the result of excessive nutritive activity and the other of mechanical pressure interfering with the proper return of the blood, and also a combination of both and each competent to produce puerperal convulsions; and we may also have them from the poisonous influence of urea floating in the blood from impaired renal function, which is, however, generally accompanied by more or less oedema: hence the difficulty of deciding whether the convulsions are dependent in such cases upon the

serous distension within the brain, or the poison of urea. But in a practical point of view it matters but little as the treatment which would relieve one would be successful in the other.

Now, if these pathological facts are facts, they possess a therapeutic value of great importance, and, therefore, readily suggest the proper remedies.

In cases like the first one mentioned, the lancet, in my judgment, is still indispensable. It takes off the arterial tension; it removes the cerebral pressure and gives a mechanical relief—not only to the brain, but to the kidney and lungs, by diminishing the circulating medium, which may of itself be sufficient to save the patient. Next in importance is chloroform, which is now considered to diminish the cerebral congestion—either by weakening the force of the heart or by a general relaxation—furnishing a free diversion of the blood to all parts of the system, and especially the surface, thereby diminishing the actual quantity in the cerebrum. I once kept a case under chloroform twelve hours, and never doubted to this day that the chloroform saved her life. Since its introduction the death rate in eclampsia has diminished 50 per cent. In cases like the above, morphia is of doubtful propriety—though sustained after bleeding, by high authority—doubtless an excellent remedy when bleeding has been carried to an extreme. Chloral in such cases is better.

In cases of which my second is a type, the above treatment is to be pursued, modified by circumstances. In such cases purgatives and diuretics are of more value.

The kidneys must be aroused from their dormant condition. Cups to the back or opposite the kidneys may be applied. Digitalis and potash salts may be tried, as well as drastic purgatives that produce watery discharges. But generally, or very often there is no safety without removal of the renal interference, by expulsion of the uterine contents. In the last resort, and it must not be postponed too late, the membranes should be ruptured, or the os dilated and labor brought on. This will generally save the patient unless the kidney has suffered some irreparable injury or Bright's disease has previously existed.

I have thought it unnecessary to be very minute or very detailed before a body of medical men—all of whom are well acquainted

with the fearful malady. I will add that the suggestions of Drs. Hyatt and Bahnson are well worth heeding. Of course, they both require further confirmation.

A CASE OF OVARIOTOMY.

By L. L. STATON, M. D., Tarborough, N. C.

The case I present to-day for your consideration was a young lady eighteen years of age, good family history; had her first trouble in menstruation at the age of fourteen, but did not pay much attention to it, as it caused little or no inconvenience. About eighteen months after the established catamenia, she had what she thought to be the mumps, and at the monthly period following, had considerable trouble; much abdominal pain with tenderness, and was unable to quit her bed for several days.

A few months afterwards, her family physician gave it as his opinion, that her trouble was ovarian. Not growing any better under treatment, she consulted almost every physician within her reach, getting almost as many different diagnoses.

The above is the general history of the case as given me at the time she first consulted me (March, 1878), by the young lady and her mother. Upon examination, a tumor of considerable size was found in the abdominal cavity. I diagnosed the growth as a multilocular ovarian tumor, and operative interference then advised. This, however, the mother positively declined to permit.

I then explained to them the course the case would probable take, and the different treatments that had been proposed and practised with more or less satisfaction, telling them if they were willing to incur the expense and risk, I would give her the benefit of them all. I placed her upon tonics and nutritious diet, and requested her to report again soon.

Heard nothing from her until June, when I received a message to go in haste as the young lady was thought to be dying. I found her condition much worse than when I saw her in March; her pulse was small and irregular, varying from 100 to 120 per

minute, respiration hurried and superficial, arterial tension very much decreased, as evidenced by the small quantity of urine voided; venous congestion well marked.

She now begged to be relieved in any way, saying she preferred death to the present condition. Not being ready or prepared for such a grave operation as ovariectomy, and knowing but one other way by which I could relieve my patient immediately, I at once resorted to that, so I performed paracentesis abdominis and drew off six gallons of fluid from the major cyst, presenting the characteristic appearance of ovarian dropsy.

This, as expected, afforded temporary relief. I prescribed for her iodized cod liver oil, which improved her general health very much, so much so that she was now able to visit around through the neighborhood and would frequently present herself at my office, a distance of twelve miles. She now grew more hopeful and was very cheerful, more so than she had been since her trouble began.

I now impressed it upon her again, the importance of having the operation performed, advising her to go to the Woman's Hospital, New York. At her request I gave her Thomas and Atthill upon Ovarian Tumors to read, so that should she consent to the operation she would know exactly what to expect.

Upon my return home last fall she again consulted me, saying that she had read the medical work and had made up her mind fully to have the operation performed and wished me to perform it.

I first declined and insisted upon taking her to New York. She declined to leave home and insisted upon my undertaking the operation, saying that if she could remain at home she would recover, but if she had to leave she was sure of dying. I explained to her the gravity of the operation, and told her if she was willing to be my first case I would undertake to do my duty. She freely consented and expressed herself as being perfectly satisfied.

I now proceeded to get her in the very best possible physical condition for the operation; gave some quinia, strychnia and aloin in conjunction with the cod liver oil, and directed that she take all the exercise possible.

After considerable study and thought upon the subject, I deemed it necessary and my duty as a professional man to give the young lady the only remaining show of life, though her condition was anything but promising for a successful operation.

Making all the necessary arrangements possible, upon the third day of February, 1879, in consultation with Drs. Williams, Baker and Knight, having administered the ether I proceeded to operate under the Lister spray, making my first incision along the median line in extent about three inches. Everything went on well until the peritoneum was divided, when I found some little difficulty in determining if there were any adhesion anteriorly. After satisfying myself that there were none, I then made the major cyst fast to the abdominal opening and introduced a very large canula and proceeded to pump the fluid through it. This was easily accomplished but upon puncturing the minor cyst I found the fluid too thick and tenacious to even pass through a Davidson No. 2 syringe.

I now made free incisions into the smaller cyst through the major cyst and emptied them quite easily by turning the patient upon her right side. After having withdrawn the larger portion of the fluid, the entire mass passed with difficulty through the abdominal incision upon gentle traction.

The tumor sprang from the right ovary; the left was perfectly healthy.

The pedicle was quite a lengthy and broad one $2\frac{1}{2}$ to 3 inches. I secured it firmly with Thomas' clamps and separated it at the base of the tumor. There being no escape of fluid or blood and no adhesions I did not deem it prudent nor necessary to sponge out the peritoneal cavity. The incision was then closed by strong deep wire sutures with superficial silk ones. The entire time consumed from the beginning of the ether administration until the patient was placed in bed was fifty-five minutes.

The patient recovered nicely from the effects of the anæsthesia. No nausea followed, small quantities of chicken tea given at short intervals. Pulse 125, thermometer 98°.

At 10 o'clock, P. M., nine hours after the operation. Patient perfectly comfortable, no pain or soreness complained of.

February 4. Passed a good night, slept well, taken during the night half pint of milk and a teacupful of beef tea. Temperature 99°, pulse 108. Gave $\frac{1}{2}$ grain morphia to relieve pain.

February 5. Condition as of yesterday. No increase of temperature. Urine in the twenty-four rather scanty. No albumen, but urates in abundance.

February 6. Slept well during the night, but complained of pain around the abdominal wound; removed the carbolized lint dressing and washed the wound with carbolized warm water and reapplied the lint. Gave one grain pul. opii. She does not desire food nor is it repulsive to her. Pulse 108. Temperature 100°.

Feb. 6, 1 P. M. She commenced coughing, become very nervous and excitable. Pulse run up to 135. Gave $2\frac{1}{2}$ grains opium.

Feb. 7. Has had bad night, troubled much with the cough and complains of pain and soreness in the abdomen. Continued opium and used the steam atomizer which had the happy effect of controlling the cough. Went to sleep at 3 o'clock and slept soundly for five hours. On awaking she felt refreshed and expressed herself as feeling much better.

Pulse 115. Temperature 101°. The air passages filled with mucus. Respiration 25, but no dullness upon percussion. Urine more abundant.

Feb. 8. Feels much better; is bright and very hopeful. Sleeps without much difficulty in breathing. Same treatment continued. Pulse 108. Temperature 100°.

Feb. 9. Dyspnoea and pain in the sides; is quite nervous and restless, wants to sit up. Tenderness over the abdomen more marked. Pulse 125. Temperature 105°. Gave two grains opium and 10 grains quinia. Could not account for the change. Late in the evening I found that she had begun to menstruate.

Feb. 10. Has had a very good night. Slept well and has taken one quart of milk with several cups of tea within the last 24 hours. Temperature 97°. Pulse 89. Complains of a little roaring in the head. Can move herself in bed without pain. Expectorates freely. The weather has now changed; it is first fair day since the operation.

Feb. 11. Doing well. Temperature 98°. Pulse less than 100. Now seems to relish what she eats or drinks.

Feb. 12. Condition as on yesterday.

Feb. 13. Still improving.

Feb. 14. Doing well. Improving.

Feb. 15. Improving.

Feb. 16. Troubled a little in her sleep. Complained of feeling a little nauseated upon awaking, but it soon passed off. Has taken plenty of nourishment during the morning.

Feb. 16, 6 P. M. Bowels begin to trouble her considerably. Moved them freely by enemas. Was called up to see her during the night and found her skin cold and damp. Pulse 135 and very weak. In consultation with Dr. Williams it was thought she had septicæmia, and would die and that very soon if something was not done to relieve her. We soon established a drainage through Douglas cul de sac, and washed out the peritoneal cavity after Peaslee's method. She came very near sinking under the operation, but soon rallied, became conscious and expressed herself as sure of recovery. Twenty-four hours afterwards similar symptoms presented as had the evening before. I again washed out the abdominal cavity as on the previous occasion, but she gradually sank and died about twelve hours afterwards, perfectly conscious and talked up to a few hours before death.

Gentlemen, the above is the case as taken from my notebook, and as nearly correct as possible, for I was very particular and made it a point upon every examination to take full notes upon all the symptoms as they are presented. If I have done anything that should not have been done, I want you to speak of it—for it is my object in presenting the case to draw out the fullest discussions and the severest criticism.

There are numerous points to my mind that are not satisfactorily settled, and you, gentlemen, will never be able to realize the difficulties met with until you are placed in a similar position. Now, if I am correct in the cause of the death of my patient, it must have been caused from the sloughing of the distal portion of the pedicle for there was no other source for the putrid matter to have originated. It was universally believed up to a late period, and is now a matter of extensive belief that sloughing of the distal portion of the ligatured pedicle must ensue. It is true I used no ligatures; but could not the clamps have acted in a similar way. I was very particular in mummifying the distal end of the pedicle.

Gentlemen, I would like to have an expression upon the following points:

- 1st. Has a general practitioner of medicine, whose practice and experience is as limited as ours are necessarily compelled to be, justifiable in undertaking such a grave and serious operation as ovariectomy?

2d. Was the operation performed in accordance with the latest science, and the after treatment the proper one ?

3d. What was the cause of death ?

4th. Is it not very uncommon for cases operated upon to die so late after the operation ?

“ A CASE OF OPIUM POISONING (?) .”*

By a MEDICAL STUDENT.

There is no pharmaceutical preparation of which I am more afraid than atropia and certainly there is none which, both from its minute dose and its great potency for ill, requires more care in its administration. Often, indeed, in reading a report of “ a fatal case of poisoning by opium,” does the painful question force itself upon my mind, “ Did the opium cause the death or was it the effect of the atropia given as its antidote ?” Certainly never did the question appear to arise with more pertinency than when reading the article in your April number (p. 228) headed “ A Case of Opium Poisoning (?) .” Did the patient in this case die from opium narcosis, or was it an instance of poisoning by atropia ?

In their physiological action the two drugs are almost diametrically opposed ; but scarcely less opposite in their action are they, than was the condition of the patient while laboring under the effects of the morphia alone and after the taking of the atropine. But first let us consider the physiological action of the two drugs in poisonous doses. When a lethal dose of an opiate has been taken, profound narcosis quickly supervenes ; the respirations become slow, irregular and interrupted, and may be either quiet or stertorous ; pulse either slow and feeble, or fast and feeble ; from the primary stimulationn of the heart the face is at first flushed but soon becomes pale and cyanosed ; the skin is cold and ofttimes bathed in a profuse perspiration ; the pupils are contracted ; all reflex movement is lost, and death results from paralysis of the muscles of res-

*This communication was intended for the May number, but was unavoidably delayed.

piration. When a poisonous dose of belladonna or the alkaloid atropia has been taken how different the symptoms! In this case the effect on the brain is characterized by a busy delirium and convulsions may occur; the respirations are increased in frequency, the pulse-rate usually at first slightly retarded, but quickly follows an increase in the *number* of pulsations; from the primary vaso-motor stimulation and consequent contraction of the arterioles the face is at first pallid, but there soon supervenes vaso-motor paresis and the arterioles dilating, the skin assumes a bright scarlet flush; instead of a cold surface, atropia produces an elevation of temperature; the pupils are dilated; reflex movements are maintained, and according to many observers, even rendered more active, and death results from paralysis of the heart. Opium and belladonna administered in combination, says Bartholow, "produce profound sopor."

Now, then, understanding the action of the two drugs, let us consider the case in question. For the relief of convulsions $\frac{1}{2}$ grain morphia, hydrochlorate was administered hypodermically; at 9 A. M., the physician at once leaving his patient. She soon sank into a deep sleep, with stertorous breathing, and all efforts to rouse her failed. At 12 M. the doctor was again called in and finds the woman in the following condition: "There was total insensibility except a slight twitching of the eyelids when the conjunctiva was touched. The pupils were contracted to the size of a pin's head. Respiration was shallow, irregular, and interrupted, and numbered ten to twelve per minute. The extremities were cool and the face somewhat cyanosed. The pulse beat regularly though feebly 110 per minute."

Evidently, here we have symptoms of opium poisoning; but the medical attendant contents himself with an effort to "keep up the circulation, by friction of the extremities."

At 3 P. M., the condition of the patient was unchanged except "that the extremities were more difficult to keep warm. The temperature in the axilla was 97.4° F." One-twentieth grain sulph. atropia was now injected under the skin of the forearm and during the next hour a moderately strong galvano-faradic current was used with the effect of slight amelioration of the symptoms. So far, very good.

At 4 P. M. one-twelfth grain of atropia was injected and electricity continued.

At 5 P. M., “ circulation appeared to be failing, the pulse being decidedly weaker and the extremities cold. Respiration was about 15 per minute. * * * * * The pupils were still obstinately contracted.” Note now, that though the pupils are still contracted, the effect of the atropine has become manifest. *Respiration has increased from 10 or 12 to 15 per minute.* The doctor now injects one-sixth grain atropia, uses hot applications to the extremities, and continues the electricity at intervals.

At 6 P. M. the temperature of the body was 100°. The pulse at the wrist could only be irregularly felt and the heart contracted feebly but regularly 115 per minute. The respiration was now 18 to 20 per minute. The pupil was unchanged, but the conjunctiva had now become *absolutely insensible*. Certainly, though the pupils was still contracted, the action of the atropine was, in all other respects, fully manifest in the increased temperature, the more rapid heart, and the number of the respirations, while the fact that the conjunctiva had now become absolutely insensible, gives us some ground for thinking the morphia and atropia combined had produced a more “ profound sopor.”

But alas, the nimia diligentia medendi ! It seems that the good doctor could only see the pupils of his patient's eye. Should he not now have used other stimulants to strengthen this rapid and failing heart ; digitaline, which diminishes the frequency and increases the force of the heart's action, ammonia or even brandy, or should he not have *disregarded the insensibility and contracted pupils* and been content to let his syringe rest ?

But instead, he now injects $\frac{1}{4}$ grain of atropia. “ In twenty minutes the effect of this dose was perceptible. The pupils were widely dilated, and respiration increased to 30 per minute ; but alas the heart although it contracted 130 to 140 per minute failed to convey the slightest impulse to the wrist. Cyanosis had disappeared but the insensibility continued.” Nothing could be more apparent now than the effect of the counter-poison.

“ At midnight a slight convulsion occurred. * * * Gradually there was an increase in the rate both of circulation and respiration, until at 4 A. M., the heart beat 150 and the breathing was

36 per minute. * * * * The heart's contraction was steadily becoming more feeble and imperfect. The pupils were still widely dilated, the extremities warm and the temperature 101°. Fifteen minutes later the heart ceased to beat and death supervened without a struggle."

Now, can there be any question that this was not a case of death from opium poisoning? Had it been, there would certainly have been, as before shown, contracted pupils; slow and irregular breathing; pale and cyanosed face; cold and clammy extremities and death from failure of respiration.

Such, however, was not the case, but on the other hand, the "slight convulsion;" the widely dilated pupils; the very hurried breathing; the rapidity of the heart's action; the flushed face; the increased temperature all speak too plainly of the poisonous action of atropia, and the feeble and rapid heart goaded until it could do no more, became paralyzed as a result of over-stimulation of its vaso-motor ganglia. The only symptom wanting is the busy delirium, and when we remember the combined action of opium and belladonna is to "produce profound sopor," I think there is no room left for the question "was this a case of opium poisoning?" The writer asks the question: "Did I give too much atropia?" The symptoms reply in the affirmative, and certainly he gave a larger dose of atropine than I can find anywhere recorded, as a counterpoison.

Two cases of opium poisoning have been published by Dr. Wardner, of Illinois, (*Chicago Medical Examiner* Feb. 15, 1874). In the first, 8 grs. of morphia had been taken and 1-5th grain of atropia was found sufficient to antagonize the poison; in the second, 7 grs of morphia had been taken and all evil symptoms were relieved by 1-8th grain of atropia.

True, Dr. Fothergill, as the writer quotes, gave one grain of atropia at a single dose (*Antagonism of Medicines* p. 133), but in this case the patient had taken from 12 to 17 grains of opium or from 2 to 2 5-6th grs. of morphia, "the respiration was failing and was almost gone," and we must not forget to notice that, though the dose was large, it was only $\frac{1}{8}$ to $\frac{1}{4}$ as large as the dose of the poison it was given to counteract.

In the case in question, however, only $\frac{1}{8}$ grain of morphia had

been taken, and the doctor, to antagonize it, gave *more* than a $\frac{1}{2}$ grain of atropia. When we remember, then, the comparative strength of the two drugs, how much more powerful in action is atropia than opium or morphia, and how much more permanent are the effects of the atropine, can there be any question that its action did predominate and need we be surprised at the result ?

And now, in conclusion, I would say, that this crude paper has not been written in the spirit of unfriendly criticism of the author of the paper questioned,—for most truly, I have no knowledge of who that author may be,—but its purpose is to elicit discussion, if possible, that authority may give us some safe rules for our guidance in the administration of *counter-poisons*. Certainly in avoiding one evil great circumspection is necessary lest we fall into a greater. We cannot too well remember that, in giving atropia the pupils are not always a safe guide to the extent of its administration.

The editor of the Philadelphia *Medical Times* (November, 1873) in a review of an article on opium poisoning treated by atropia says : “We cannot help believing that often a good deal of firmness is required in these cases not to use it too freely, especially since reliance is generally placed upon the pupils as a guide. They are, however, a very unsafe guide, as is apparent when it is remembered that whilst opium contracts them by influencing the nerve centres, atropia probably dilates them by acting on the peripheral nerves.”

Nor can we keep too well in our minds the caution of Bartholow, which is : “It cannot be too strongly insisted on in this connection that belladonna in too great quantity, or too long in action, exhausts the irritability of the unstriped muscular fibre, and thus induces the very state which its administration was intended to relieve.”

Fatal Toad-Poisoning.—The London *Medical Record* mentions the case of a lad who followed a toad on a hot summer's day throwing stones at it. The enraged animal spurted some moisture in his eye. The boy died several days after, in a state of noisy mania.

CLINICAL REPORTS.

A REMARKABLE CASE.

By J. A. REAGAN, M. D., Weaverville, N. C.

In January, 1864, S. F. Young, a Confederate soldier, was wounded and taken prisoner. His recollections of what occurred, and how he was treated for some time after he was wounded, is very imperfect. He thinks, however, that the surgeon who attended him, removed some pieces of his clothing which had been driven into the wound, but could find nothing else. His case was regarded as hopeless, but improving some he was finally exchanged about the close of the war. He returned home. The wound never healed; but continued to suppurate, which made a constant drain on his system, until he was reduced from a stout, athletic man, to a mere skeleton. Being satisfied that some foreign substance was still in the wound, he called in, at different times, several physicians. And at one time, about 1870, there was held a consultation on his case, when it was determined to operate. After one or two incisions were made, further efforts to complete the operation were abandoned, as it was thought impossible to complete it with success.

In the fall of 1877, nearly fourteen years from the time he received the wound, he sent for me—about forty miles from where he lives.

I found him very feeble, not able to sit up, the wound still suppurating.

On examination I found that the missile had struck him, evidently while he was lying down, as about one inch of the two lower ribs, on his right side, were cut smoothly away, leaving a space in which I could lay one finger between the ends from which the pieces were taken. As the suppuration was from the pelvic region, I knew that whatever of foreign matter there was must be somewhere in the pelvis. Starting my probe in at the point from which the pus exuded—just above the middle of the crest of the ilium, I could probe about three inches down on the internal surface of that bone.

He refused to take any kind of anæsthetic, hence the operation had to be performed with him fully awake. I made an incision

along the inner edge of the crest of the ilium about three inches in length, and searching down I found the two pieces of missing ribs, apparently just as they had been driven there, nearly fourteen years before.

I removed them and could probe no further. Hoping that these were the only sources of distress, I closed the wound in the usual way, leaving an opening for the escape of pus.

Finding from the soreness and fluctuation low down, that pus had burrowed much lower than that place from which I had removed the bones. I attempted to make an examination per rectum, but it caused him so much pain that I had to desist.

I told him that I feared another operation would be necessary as he was so very tender about the rectum ; but that I would place him on quinine and iron for a time with good nourishing diet, with the hope that he would gain some strength. He gained but little owing to the great and continual drain on his system from the constant flow of pus, which he assured me had been not less than a gill every day from the time it first began. I then thought it best to operate from below. So I made an incision two and one half inches long, just to the inner side of the tuberosity of the ischium, and pus was very freely discharged. I explored the cavity with my finger but could reach no foreign substance. I now determined to wash out the cavity from the opening above, which had not entirely closed up. I entered the tube of a Davidson syringe in the unhealed part of the first opening—using blood warm water. I first made gentle pressure on the bulb but the water failed to pass out at the lower incision. Then I increased the pressure, and I discovered that something gave way and the water poured out at the opening below. I then used carbolized water and washed out the whole cavity again, when the ball—for it proved to be a minnie-ball—descended and was shortly removed. The wound now healed kindly, and the man is restored to perfect health. In this case there are several things remarkable and of great interest.

1st. That a minnie-ball should cut three ribs off as smoothly, apparently, as if done with a saw.

2d. That these pieces of ribs should be driven down some six inches along the side of the peritoneum without breaking through into the cavity.

3d. That they should remain, for nearly fourteen years, in that position without dissolving, working out, or entering the pelvic cavity.

4th. That this same minnie-ball could be able to pass from the eleventh rib between the arms and tuberosity of the ischium without disturbing, materially the nerves and blood vessels of the pelvis.

I give this case as far as it came under my observation, and leave it to the profession to explain these apparent impossibilities to their own satisfaction. I believe, myself, that the ball was turned by some cause, before it struck Mr. Y., and that it entered hollow-end before, which may explain the cutting off of the ribs and driving them down. It must have been his position, in some way, that prevented the ball and pieces of ribs from entering the cavity of the pelvis.

Of the other two I am not well satisfied and will not attempt to explain the why and wherefore. Taking this case as it is, I regard it as the most interesting that I have ever seen or read of in some particulars. I have examined the surgical history of our late war, the surgical histories of the French and English wars, but can find no parallel case.

Perhaps the surgeon who treated Mr. Young's case, after he was captured, could give us some light in regard to his condition, and treatment in the early part of his affliction. If he is still living. Mr. Y. does not remember the surgeon's name.

ERGOT IN HÆMOPTYSIS.

By E. H. HORNADAY, M. D., Willow Greene County, N. C.

On the the 26th day of December, 1878, I was called to see Mrs. B., living about two miles from my place. Mrs. B., aged 44, married 19 years, mother of eight children, blonde, rather tall, usual weight when well 115 lbs, with a narrow chest. She had been troubled at times with cough for the past ten years, but the cough

was attributed to inflammation of the mucous membrane of the bronchial tubes. She had at the time of my first visit lost much flesh, her pulse was 115. She had severe cough, purulent expectoration, chills, night sweats, the hectic flush, and in the language of that great and good man, Prof. G. S. Bedford, she presented the entire cortege of symptoms of that most fearful and rebellious malady—consumption; and on physical examination I made that diagnosis of her case, and commenced treatment accordingly.

On the 26th day of January past, I called in consultation my esteemed friend and compeer, Dr. Frank Rountree, of Hookerton, who endorsed my diagnosis and treatment in her case. At that time the greater part of the superior lobe of the right lung was consolidated, and coarse, moist sounds were abundant in this region, and a well marked cavity of the left lung found.

On the night of March 15th last, I was hurriedly called to see Mrs. B., with the information from messenger that she was bleeding to death from the lungs.

On arrival, I found the patient pale, and almost pulseless from pulmonary hemorrhage. I at once administered fld. ext. ergot gtts. xl, per orem, every thirty minutes until hemorrhage subsided, which it did in less than forty minutes. The ergot, per orem, treatment of hæmoptysis is the teaching of Dr. Jas. M. Williamson (*Lancet*, Nov. 13th, 1875).

The treatment adopted in Mrs. B.'s case was cod liver oil and whiskey; steam atomization of carbolate of tar, night and morning, and atropia and morphia as follows: \mathcal{R} . Atropiæ sulph. gr. j.; Morphiæ sulph., gr. viij.; Acid sulph. dil. f. 3 j.; Aquæ f. 3 vij. M. Sig.—Five to ten drops in water three times a day. When the vision was much disturbed, the dose was reduced. She commenced to improve about the first of April which was marked and rapid, and now July 2d, her cough has ceased. She has no fever nor sweats; her appetite is good, and she weighs more, looks better than she has before in ten years, can walk two or three miles without fatigue or trouble. In fact she is free from her pulmonary trouble, and I think, rest produced by atropia combined with morphia was the *sine qua non* in her case.

My object in reporting this case is to call the attention of the profession to an exhaustive article in the April number, 1879, of

the *American Journal of the Medical Sciences*, on the Treatment of Certain Forms of Phthisis Pulmonalis by Rest and the Internal Administration of Atropia, by Roberts Bartholow, M. A., M. D., then Professor of the Theory and Practice of Medicine in the Medical College of Ohio, but now elected to the Professorship of Materia Medica in the Jefferson Medical College of Philadelphia.

POISONOUS TOAD-STOOLS.

Mr. Julius Palmer, Jr., of Boston, in an article on "*Toad-Stool Eating*" in the *Boston Medical and Surgical Journal*, August 28, gives the following practical hints for the avoidance of certain dangerous mushrooms. The reference is to *agarics*—umbrella mushrooms, with gills. "The stem of this dangerous class has a wrapper incasing the base of the stem, more or less closely. The stem has usually a collar or ring around it about two-thirds of its length from the ground. The gills, as well as stem, are always pure white. The top of the cap is variable in color, according to the specific member of the genus. The most common variety has a yellow spot in the centre of the disk shaded off to pure white at the edge. There are also varieties with red, golden, drab, greenish and pure white skin for the top of the umbrella. But all have warts or scurf on their skin, which easily rubs off. By noticing these three marks, *wrapper* at the base, *collar* on stem, and *scurfy* top, persons may avoid the most venomous family of mushrooms."

Pink-gills among the agarics can almost always be found where other mushrooms abound, and once recognized can easily be identified afterwards, and these will always furnish the lover of mushrooms a good dish. Of course it is safer to plant "spawn" sold by seedsmen than to venture upon too little knowledge of the botany of these difficult plants.

Dr. W. A. Hammond has been restored, by findings of court and final signature of the President, to the rank of Surgeon-General without back or future pay.

SELECTED PAPERS.

ADDRESS IN SURGERY ON THE PREVENTION OF BLOOD- POISONING IN THE PRACTICE OF SURGERY.

By WM. S. SAVORY, M. D., F. R. C. S., F. R. S.,
Surgeon to and Lecturer on Surgery at St. Bartholomew's Hospital.

When honored by the invitation of your Council to give this year the Address in Surgery, I had to consider on what subject I might venture to speak to you. I could not help regretting that one had not been chosen for me; I was embarrassed by the range of choice. Working as I am at surgery in general, there is no particular subject on which I am entitled to speak with special authority; with any authority indeed beyond, or even equal to, that many of those whom I address can claim. But then, on reflection, I could not doubt that if the members of this Association had been called on to select a subject for this address, the majority at least would have chosen that which is, I think, not only in itself the first and largest in surgery, but also the one which of late years has occupied the attention of most surgeons far more than any other, and concerning which the most opposite opinions are entertained by those who have the fullest opportunity of studying it.

Need I say that I refer to the subject of blood-poisoning and its prevention? I think I am speaking advisedly when I call it the largest and the first; for it is not only an evil spread over the whole field of surgery—in what class of cases is its deadly presence unknown?—but it is, if not the sole one, almost beyond comparison the chief evil which waits upon the surgeon's own work. It seeks its quarry not only in disease and accident, though here might be found scope enough for its power of destruction; but it hovers over every operation, and by its fell swoop can destroy the best work and fairest promise of the surgeon. Yes; truly it has been the scourge of surgery. Is it so still? Would I could say altogether it was a thing of the past—of history only; that we are now able to cast it out. No; I cannot state this. When will some successor of mine in this honorable but responsible position be able fairly to affirm so much? But this I may say, that of late a vast amount of

the best work has been done in this direction ; of work so worthy, that if the demon has not been altogether exorcised in its power of mischief, it has been so trodden under foot that now, when it moves among us, we are startled as by some strange thing. Let those who think my language overcharged look at the records of surgery in the last generation only, and in this will see somewhat of the good which has been wrought—but a fraction of it ; for it is only in our own time that anything like an accurate record has been kept of the number of lives thus destroyed. How many lives were so sacrificed in former times, no one can tell ; for the nature of the mischief being then unknown, its fatal work was set down to to the account of various other causes. It is only in time within the reach of many of us that its presence came to be recognized with sufficient distinction to have a name. And surgeons, you know, are not slow to find names for new things, whether real and actual, or mere imaginings. Yes, surely the chief triumph of this era of surgery is the successful war it has waged with blood-poisoning in all its various forms.

THE TERM BLOOD-POISONING.

To avoid risk of confusion, let us consider for a moment what is to be understood by the term blood-poisoning. I shall employ it in its comprehensive sense to express the sum of the effects produced by the introduction of matter charged by the action of septic poison into the blood. By septic poison, I understand matter capable of producing or promoting putrefaction. This septic matter is thus, of course, separated from all inorganic or vegetable poison commonly so-called, and by its effects, at least, in the economy, from those zymotic poisons which produce such diseases as small-pox, scarlatina, measles, and the like. But I need hardly add that I include in this view not only the affections called pyæmia, septicæmia, ichorrhæmia, and so on, but some others which perhaps would not be so universally accepted to be within the pale, as, for example, erysipelas, certain forms of erythema, boils often, and carbuncle, and some other affections more vague and transient, which perhaps I need not now further particularize, for on this subject I have already spoken elsewhere. Of course, I do not forget that concerning the pathology of erysipelas, for instance, contrary views are still entertained. For my part, I consider it to be

fairly well established that erysipelas is due to some infection of the blood ; that it is the result of some form of blood-poisoning, and very closely allied to the affections called septicæmia and pyæmia. Nor shall I now trouble you with any discussion of the relation of the affections called septicæmia and pyæmia to each other. But, in order to be clear, it is as well to say that I do not think there is any evidence at all sufficient to show that these affections are different in kind or in nature. So far as I can see, they differ only in degree—a degree probably determined, at least chiefly, by the intensity of the poison which operates. I can find no reason for assuming a difference in the nature of the poison itself. For the grounds of this opinion I must refer you to former papers on the subject.

THE CAUSE OF BLOOD-POISONING.

The cause, then, of the blood-poisoning of which I speak is the introduction of putrid matter to the blood. I say its introduction, for if it ever originate in the blood itself, such an origin is at present beyond research. We know nothing of it. All that we do know is that it may be introduced from without. The current belief—may I say the established fact?—is, that the agents of putrefaction exist in the form of solid organic particles, some so minute as to be beyond the range of the highest powers of the microscope, which float freely in the air, and are now commonly called germs, and which abound in decomposing organic matter of various kinds, notably—and this is of chief interest to us—in decomposing animal fluids.

Let it be observed, however, in passing, that although the germ theory in its present form is of very modern growth, the belief that the admission of air to recent wounds is in some way injurious is not a new one. It extends at least beyond the era of the introduction of subcutaneous surgery, which is founded on it.

Now, it is necessary for me, in order to avoid being misunderstood in what I have to say hereafter, to state thus much ; but I do not propose to enter further into it, to disturb the vexed questions that arise therefrom. I am considering the subject now only from a clinical point of view. Therefore I turn from any farther inquiry into the more precise nature of these septic particles. In what sense, for instance, they are entitled to be considered alive need not trouble us here, or whether they are more akin to vegetable or ani-

mal life. That they are organic, and possessed at least of the fundamental attributes of living matter, seems proven by their behavior, and by some of the tests that we can apply to them. It is enough for us that they are septic; that they can produce and promote putrefaction; and further, that fluids so changed by them may provoke those terrible effects which are only too well known as blood-poisoning. I speak thus of the fluid which poisons, saying changed by, rather than charged with, bacteria or their germs, according to evidence; but I need not now consider this question. You will remember that it was discussed in a masterly manner last year by Dr. Roberts, in his Address on Medicine. Neither have I now anything to say concerning the particles of matter at present called bacteria. Every one knows how they are prone to abound when putrefaction and kindred changes occur. For the most part, I suppose their presence may be regarded as the signal that such changes are in progress; but the exact relation they hold to such changes is at present with many a vexed question, and it is not necessary now to disturb it.

I have only one further remark to make on this portion of my subject. I have said that we have no knowledge that these mischievous particles ever originate within the blood. We do know that when fluids so changed by them find an entrance from without, they are prone to provoke grave mischief. But we also know that such fluids, potent for the gravest mischief, may be produced within the body, deep among the tissues, far away from any chance of direct communication with the air, and this without previous wound or injury of any kind. Upon the passage of such matter into the circulation, the most fatal form of blood-poisoning may supervene. This significant fact, which is beyond question, has been of late strangely set aside, I would almost say willfully overlooked, in very much of what has been written within the last few years. A fact significant, indeed, in a two-fold sense. But to this I shall presently return.

GERM THEORY.

It will be admitted, I trust, even by those who unreservedly accept what is known as the germ theory, that I have not been in any way unfair in what I have thus said on the subject. Some, I know, would not go so far as I have gone, but I am anxious not to

do injustice to this view. But now I turn to another side of this great subject: a side which throughout the discussion has been curiously lost sight of; which, so far as I know, in the vast amount which has been said and written, has been almost entirely ignored. If the germ theory in its past and present state contained the truth, the whole truth, and nothing but the truth, what possible explanation is to be given of that which is witnessed daily and hourly—the kindly repair of exposed wounds? I will venture to say that any one who had no clinical experience, but who accepted all that he could read on the germ theory, would inevitably come to the conclusion that to expose any wound unguarded to the atmosphere would be to seal the fate of the patient. But what is the fact? Who requires to be informed? Then is it not clear that the whole truth has not yet been told? Nay, further still, not only are exposed and unguarded wounds constantly to be seen in healthy process of repair, covered with secretion which presents no evidence of putrefaction, but wounds are sometimes seen bathed in fluid, which, if injected into the blood, would forthwith produce all the effects of blood-poisoning in the most intense degree. And yet further: not only may such fluids be in contact with open wounds without provoking any evidence of mischief, but a collection of the foulest fluid, in a state of considerable pressure; as, for example, in an anal or pharyngeal abscess, or in an abscess around dead bone. I say a collection of matter large enough and poisonous enough to destroy a host of persons, if passed into the blood, may remain thus pent up in the body for a long period without any visible disturbance of the general health. It is obvious, then, that the contact of wounds and raw surfaces with even putrefying fluids is not always enough, for this is seen continually without evil effects. They must be transmitted to the blood. I hardly know what would become of the practice of surgery if this were a matter of course. In point of actual fact—a fact second in importance to none in surgery, but which it is the fashion just now resolutely to ignore—I say, in point of fact it is very far from it. The transmission of such fluids, when they are present, is the exception, not the rule. Now, here again I am content to take the fact itself; and I do not propose to enter, at all events at any length, into any attempt at explanation. I do not think, however, that there we are altogether in the dark. All

wounds, except the most recent, when tolerably healthy, are covered, as we all know very well, by a newly formed delicate structure sometimes called granulation-tissue; sometimes presenting other but kindred forms, but which in any case constitutes a continuous layer interposed between the blood and whatever may be on the surface; and it seems to be pretty clear that this animal membrane has, like similar structures of the class, the property of separation; that it has the power of allowing the transmission of certain substances and of rejecting others, and that upon this simple action of dialysis health and life very often depend. I say this explanation has been made reasonable by observation and experiment; but whether it be wholly or partially true or not, the fact—the vital fact—which it attempts to explain remains. Pause, if only for one moment, to think of it: a fluid all-potent for mischief, intensely poisonous, on the one side, to blood, to which if it gain access follows destruction; on the other, and a very thin, very delicate, most fragile membrane only intervening! Truly enough, to the patient ignorance of this is bliss; and surgeons just now talk, and write, and practise as if it were folly to be wise.

But such terrible transmission is sometimes effected, and there is blood-poisoning. It remains, then, to inquire under what conditions the poison, can gain entrance to the blood. I think the clinical study of this subject impresses us with some striking facts. First of all, that this mischief is least likely to happen in healthy wounds during the process of repair; and that, when it does occur, it is either in a wound unhealthy in character or flagging in its action, or in one so recent, or in which the process of repair has been so delayed, that little or no new and healthy tissue has been produced on the surface. In other words, when the newly formed tissue is healthy and entire, it is tolerably impregnable, and that whatever interferes with its integrity gives the opportunity for mischief. I say the mischief is less likely to happen in proportion as the wound is healthy and repair rapid; but exceptions to this we know occur, and it is reasonable to suppose, in some cases at least it has been almost demonstrated, if in some obscure corner reparative action has not failed, that from some violence, or accidental disturbance, or other cause, the continuity of the new structure has been broken or its integrity somehow impaired, and so the poison has passed in.

And now I hasten anxiously on to prevent the possibility of misapprehension even for a moment. But no one, I trust, could imagine, from what I have been saying, that I am not to the last degree impressed by the mischief which may arise from the présence in wounds of any kind of decomposing fluid; that in the most absolute and thorough cleanliness—not in the common sense only, but in a surgical one also—can a patient be at all secure. I shall return to this; but I shall not be in any way misunderstood here. My present purpose is to insist upon the fact that two conditions at least are required for the mischief of blood-poisoning; and that of late, in the concentration of attention upon the other, one of these has been strangely overlooked. There must be a fluid potent for evil, and there must be a surface ready to transmit it. Obviously, then, the means of preventing mischief, of conducting our patient safely through recovery from wounds and injuries, lies in fulfilling the opposite conditions: in the rigid prevention or exclusion, so far as it is practicable, of all putrefying or decomposing or foul fluid, and in keeping wounds in as healthy a state as possible, in fostering the soundest and most rapid process of repair. If either of these conditions be fulfilled, the patient may escape the mischief we dread; but undoubtedly the duty of the surgeon is, by all means within his power, to secure both. He is below the mark if he can ever be satisfied with less than this.

Furthermore, be it remembered that these two conditions, as the rule, are found in company. The fresh fluid upon the surface of a wound which is healthy and in process of repair is innocuous. No mischief of this kind lurks in fresh healthy pus; and if the fluid which bathes the surface of a wound become foul or putrescent, the character of the wound itself is apt to change, and the integrity of the surface to suffer. Therefore, a healthy wound in process of repair, and a fluid on the surface which is innocuous, as the rule, go together.

Animal fluids exposed in open vessels to the air after sometime become putrid, the length of time varying with the state of the air; and so it is forthwith concluded and argued by many that if fluid upon the surface of a wound be exposed to the air it must while there become putrid too. But the fact is, any one who cares to witness it may see fluid at any time upon the surface of exposed

wounds which is not putrid. And the explanation of this most familiar fact is simple enough : that the fluid in the vessel has been kept until it has become foul, while the fluid upon the surface of a wound in process of repair which is duly watched and properly managed is ever being renewed. The same fluid ought not to be allowed to remain long enough to undergo mischievous change. There is after all some difference between stagnant water and a running stream.

Dr. Roberts, in his memorable address last year, said : " Before we can understand the pathology of septicæmia, we must have clear ideas on the relation of septic bacteria to our bodies. We see in our laboratories that dead animal tissues, when exposed to ordinary air or ordinary water, invariably breed septic organisms ; in other words, contact of septic germs with the dead tissue never fails to produce successful septic inoculation. But this is quite otherwise with the same tissues when alive and forming part of our bodies. You cannot successfully inoculate the healthy tissues with septic bacteria. It has been proved over and over again that these organisms, when separated from the decomposing medium in which they grow, can be injected in quantity into the blood or tissue of a healthy animal, or applied to a sore on its skin, without producing the least effect. The healthy living tissues are an unsuitable soil for them—they cannot grow in it ; or to put it in another way, ordinary septic bacteria are not parasitic on the living tissues."

" This fact," he continues, " is of fundamental importance in the discussion of the pathology of septicæmia. We have a familiar illustration of its truth in the now common practice of subcutaneous injection ; every time you make a subcutaneous injection you inject septic germs into the tissues."

Thus, the surgery of the present day, in this respect is, characterized as antiseptic ; that is to say, since surgeons have duly recognized this great impending evil, they have as their chief aim, striven to avert it. Here, at all events, increase of power has followed closely on the advance of knowledge. One has not, I repeat, to turn far back in our literature before all evidence of any suspicion of what is now known as blood-poisoning disappears. Our knowledge of the fact of even the existence of such an affection is of recent date ; and for several years after the subject first attracted

the attention of surgeons, the comparatively clear and simple view of its pathology which at present prevails was for awhile obscured by theories and doctrines, which drew observation away from the actual cause, to speculation on phlebitis, thrombosis, and other changes which are often associated with it. The history of our present knowledge of blood-poisoning is an interesting and instructive one. At first, all attention being naturally concentrated on the changes wrought in the body, the origin and cause of the affection was sought only within those limits. Then when the truth began to dawn that the actual poison was derived from without, the pendulum of opinion, according to its wont, swung at once to the opposite extreme, and I venture to think that of late the opposite error has prevailed, of regarding only the conditions under which the poison is formed, and losing sight altogether of the conditions under which it affects the blood.

Antiseptic surgery! Unhappily there is much confusion in the current employment of this phrase. This ought to mean—and with some, but a few only, it does mean—the principle which aims to secure healthy wounds and their repair as speedily as possible (for while they last there is always risk) by the most scrupulous cleanliness—by cleanliness, I repeat, not only in the common, but in the surgical sense, which means the prevention or removal or destruction of all matter which may prove poisonous. This, I take it, is the only adequate conception of antiseptic surgery; and, as thus understood, the term antiseptic ought in fact to become superfluous, being thus simply equivalent to good surgery. Less than this should mean unwholesome practice. But somehow there is a weakness among us for exuberance of this sort. What a run the phrase “conservative surgery” had, for instance, nay, still has in certain quarters, as if surgery itself were worth anything, could have any value, or even deserve its name, if it were not in the truest sense conservative! The employment of the term “conservative” ought surely to mark an inadequate conception of our art, and I would fain say the same of the word “antiseptic.” If surgery be not antiseptic in the sense I have endeavored to indicate, it must foster most dangerously, by covering with its sanction, the prevalence of mischief. But antiseptic surgery, as more commonly understood, implies the liberal employment in practice of special agents, which

are collectively known as antiseptics; and the number of these—their name is legion—which has been introduced to the profession and the public, and the amount of many of them which is consumed, testify abundantly to the extent of opinion in their favor. But in this sense, again, I suppose all surgeons nowadays practise antiseptic surgery. Perhaps an instance hardly ever occurs now in the treatment of a wound in which an antiseptic of some kind is not in some way employed during its progress; never, perhaps, in what should be called civilized surgery, if we allow—as we should allow—free ablution with clean water, adequately used, to be amongst the simplest, safest, best of antiseptics. And lastly, the term antiseptic is employed, and this most commonly of all, to express a particular method of carrying out the great principle; the method which has attracted, and is still attracting, so large a share of attention. Of course, I allude to that which has been devised by Lister, and which is more precisely termed Lister's plan or method of dressing wounds.

It would be a matter of comparatively little moment in which of these senses the term antiseptic were used if only the present degree of confusion could be avoided; but some mischief arises, I think, when the principle itself is confounded with any special mode of practice.

Now, since some light has been thrown on the nature and cause of this affection, what has surgery done to avert it? Yes, there are grounds for congratulation in this direction. This would surely be the answer given by the general experience of surgeons; and vague and full of fallacy as this necessarily always is, it must, and especially in this case, be allowed to go for very much. And this is the answer given by statistics, which although too often laden with fallacy also, speak, I believe, plainly and conclusively on this point.

* * * * *

Taking a case—say, of amputation through the thigh, or of excision of the breast—I should treat the wounds in the way following. Having carefully arrested all hæmorrhage, using most probably the carbolized catgut ligature, and having gently removed any particle of blood-clot that may have lodged on the surface, employing only clean water or sponges just rinsed out of it, I

should, without any further interference with the surface of the wound, bring the edges together, adapting these as nicely as possible with silver-wire sutures. I should not in this way attempt to close the wound completely, but I should leave spaces between the sutures, perhaps from one to two inches long. Then, over the course of the wound and for some distance on either side of it, I should place a layer of folded lint which had been previously well soaked in olive or almond oil containing one part in about fifty of carbolic acid. Over this again I should place two or more layers of dry lint, either with or without cotton-wool; so arranging this as, by gentle and equable pressure, to secure, without any violence, as far as practicable, the accurate adaptation of the surfaces of the wound throughout, avoiding thus any considerable cavity in the interior. I should secure all this by strapping or bandage, or both, so adjusting these that they may be hereafter removed with the least disturbance. I should place the patient and the wound in the most comfortable position possible, having especial care to the fact that fluids, as they form, may flow outwards. Thus, for instance, after excision of the breast, I have, for sometime past, placed the patient, not on her back, but on the opposite side, so as to make the inner angle of the wound the most dependent part of it. I am convinced that this assists greatly in promoting speedy and satisfactory repair. It is much better for fluid to escape at the inner than at the outer angle, and this more especially when the axilla has been disturbed by the removal of glands. The cellular tissue is so very much less abundant and less loose towards the sternum, that the chance of infiltration of the fluids is very much less. As a rule, perhaps, I do not disturb this arrangement for forty-eight hours, although very often I change the dressing and inspect the wound after twenty-four. I am guided in this matter of time chiefly by the state of the patient; whether spare or full-bodied; her sense of local and general comfort, freedom from or complaint of pain; and the season or temperature. But whenever I am in doubt, I change the dressings. These, then, are removed with the utmost gentleness, and the state of the wound carefully inspected. Especially is attention directed to whether there is any tendency to the lodgment of fluid; whether that which forms can escape freely; whether there is much tension of the edges. I am bold enough to think that

any surgeon who understands his business can tell, without any painful handling, whether the surfaces of the wound are fairly in contact, or whether there is any tendency to the accumulation of fluid separating them. But if any doubt arise on this important point, a perfectly clean probe or director lightly applied to some portion of the wound will solve it and secure ample vent; if at all necessary, I should not hesitate to remove one or two or more sutures. If the wound presented no other evidence than that of satisfactory repair, I should dress it as before, and proceed in this fashion, dressing and examining it daily or less frequently, according to circumstances. But if at the first dressing, or whenever afterwards the discharge became at all profuse, or the surfaces did not remain in contact, or there was much tension or a blush at the edges, I should forthwith substitute a bread-and-water poultice for the previous dressing, and probably continue to apply this until at least all the deeper portion of the wound had closed. When I dressed the wound, I should wash it probably from the first with tepid water, perhaps containing some permanganate of potash in the form of Condy's fluid or other potent antiseptic of the least irritating kind. I should accomplish this washing out, if I thought fit, of portions or even the whole of the interior by the use of a syringe, avoiding contact of sponges or other substances with the wound. I aim here at the utmost possible cleanliness, having at the same time due regard to the avoidance of any unnecessary disturbance, that the process of repair be not interrupted. And withal I endeavor, by means I need not indicate, to secure for my patient the most complete rest and the purest air.

With regard to the substitution of a poultice or water-dressing, or some other form of application, for the simple dressing used in the first instance, I think one can tell for the most part beforehand if they are likely to be required at all, or early in the management of the wound. In young persons in tolerably good health and spare, most wounds, when not worried, heal very directly. It is in those advanced in life, with flabby textures and much loose fat among them, that wounds give most trouble. These pour out fluid freely and are prone to flag, and while the process of repair is delayed, may fall into mischief in various ways.

Now, I am sure you will allow that this mode of treating wounds

in general which I have thus slightly sketched is characterized by its simplicity and the entire absence of all novelty; my purpose being to interfere in the least degree possible with the work of nature. Some years ago it would not be worth recording; and now perhaps it will excite surprise to find that any plan of treatment with so little in it is still adopted. Allow me yet to trouble you with a few comments.

In the first place, at the time of operation, or immediately afterwards, you see nothing is applied to the wound but water as a rule; no antiseptic of any sort, provided the surface of the wound is healthy. Because I believe that such healthy natural surfaces are in the state best adapted to satisfactory repair; and that, as a rule, in proportion as they are changed by the application of foreign agents, so are the changes which initiate repair, hampered or arrested. I would ask, if it be wise thus to wash the surfaces of recent wounds with antiseptics, why not treat all wounds so—as, for example, in the operation for hare-lip? Antiseptics, at this time especially, are irritants in some degree; and, unless they are very strong, and therefore very irritating, their power to arrest mischief is lost before the period for that mischief has arrived. Therefore, it seems to me, for the employment of antiseptics from the first to become reasonable, the wound throughout its progress must be kept thoroughly under their influence; and of this particular plan I shall speak presently.—*London Medical Times and Gazette*.

[To be continued.]

Kill or Cure.—A medical man called into see a child in Spolete, Italy, was informed by the father that if he cured the patient the reward would be two thousand lire, but that, should he fail, he would infallibly be shot. The child died soon after, and the father true to his word, put an end to the doctor's life with his shot-gun. If patients in Italy are as prompt to pay such good fees, as to revenge themselves, it would be a good field for doctors. One would almost run the risk of being shot, if he was about equally sure of being paid.

CURRENT LITERATURE.

INDIAN CHOLERA.

The abstract of a very interesting and important report on the epidemic of cholera of 1875 and 1876 in the Central Provinces of India, by Surgeon-Major S. C. Townsend, Sanitary Commissioner, we extract from the *London Weekly Times*. The conclusions of Surgeon Major Townsend cannot fail to interest those of us who are giving attention to preventive medicine, for the principles enunciated have a direct bearing upon all zymotic diseases.

“The conclusions regarding the nature of cholera, the means by which it is spread, and the conditions that determine its incidence on particular populations which seem to me fairly deducible from the facts described in this report are :—

“1. That cholera is never a product of the soil of the locality in which it occurs.

“2. That the spread of cholera over and beyond India is not effected by the means of air currents that have passed over the Gangetic Delta or other locality in which the disease is considered to be endemic.

“3. That cholera belongs to the class of infective epidemics, and that human intercourse supplies the means by which it spreads.

“4. That the infective material of cholera may multiply or increase in water containing sewage or other animal organic matter in a state of decomposition.

“5. That the infective material of cholera, when introduced into the human organism, will not produce the symptoms which constitute the disease unless a certain state of system suitable for its action in this manner has been previously induced.

“6. That in India this state of system is more commonly induced by the use of water charged with putrescent animal matter, and that the seasonal prevalence so characteristic of cholera in the country is the result of the action of drought and rainfall in charging the water supply of the people with impurities of this kind.

“7. There is reason to believe that the state of system suitable for the malefic action of the cholera infective matter may be induced by inhaling air in a confined space laden with the emanations

from a sewer or cesspool, or otherwise contaminated with putrescent animal matter ; also that it may be induced by errors in diet ; and it is not improbable that it may occasionally arise through faulty action of the excretory and depurating organs. But in India these conditions are not sufficiently common to affect the seasonal course of an epidemic.

“ It follows from these conclusions that measures for the prevention of cholera must be directed towards limiting the spread of the infection by human intercourse, or towards removing the insanitary condition which are the most common determining causes of epidemic outbreaks. General measures based on either of these principles are, no doubt, encompassed with great difficulties. Attempts to limit the spread of the infection have commonly failed, and it will be easily understood why this should be, if as there is good reason to believe, the infection of cholera may lie latent in the system for considerable periods, and if it may be conveyed and communicated by persons apparently in perfect health. The difficulties in the way of establishing barriers which shall effectually prevent intercourse between one part of a country and another are almost insuperable. Even with regard to a particular class of persons known to be infected, as pilgrims returning from the large religious gatherings, attempts to prevent their passage will almost always prove futile ; and, while they fail of their object, they inflict great hardships on the people, and afford the police opportunities for oppression and extortion.

“ But, although effectual inland quarantine may be impracticable, it does not follow that precautionary measures against cholera should have no reference to the fact that the disease is spread by human intercourse. Abundant evidence will be found in this report and the appendices of the influence of pilgrimages to the holy places and the large gatherings that are held at them, on the chief festivals, in giving origin to epidemics and promoting their diffusion over the country. The time may not yet be ripe for suppressing or authoritatively limiting these pilgrimages and fairs ; but by keeping prominently in view the fact that they are a great evil, and occasion much mortality and misery among the people, the practice of resorting to them may be discouraged, and the way towards suppressing the more dangerous of them may be prepared. In the

Central Provinces certain fairs have been suppressed, and the time of holding others has been changed, and no one acquainted with the facts doubts that these measures have been the means of saving thousands of human lives. The evil effects of the numerous marriage parties which unfortunately occur in the hot weather, when the population is most susceptible to cholera, have also been made evident in this and former reports, and it is now considered quite justifiable to discourage them in epidemic years. There are many other occasions on which the fact that cholera is communicable from person to person cannot be ignored without great danger; but perhaps the most important is the assemblage of troops for service or for manœuvres. It is scarcely probable that any one, even of those who discredit the communicability of cholera, would have sufficient confidence in his opinion to bring a regiment actually suffering from cholera to a force collected for service; but if, as there is reason to believe, the infection may lie latent in a body of men for a considerable period, it would not be safe to add to the force a regiment in which cases of cholera had lately occurred, although they may have for the time ceased; neither would it be safe to march a regiment to the place of assemblage through a district in which cholera was at the time epidemic.

“ But while I believe that views which discredit and keep in the background the fact that cholera is a dangerous epidemic are fraught with danger and weaken our powers of mitigating the ravages of an epidemic, it may be admitted that measures directed solely to preventing or limiting intercourse are capable of only partial application, and that for the permanent diminution of the prevalence of cholera we must look to measures for the removal of the specific local condition which determines the incidence of an epidemic on particular populations, and without which, apparently, the infective matter remains inactive. This condition we have shown to be, most commonly water charged with animal matter in a state of decomposition; and the most radical of preventive measures consists in supplying the people with water not subject to deterioration by exposure to a hot sun and drying winds, and not liable to contamination by the surface drainage of an inhabited area, or by the filtration of rainfall through a polluted soil.

CONINE AND ITS SALTS.

Under this head the London *Lancet* treats of the alkaloid peculiar to *Conium maculatum*,* which has the various designations coniine, conin, conia, and cicutine; it must not be confounded with cornin the Eclectic resinoid.

The *Lancet* quotes from Bouchardat's annuaire for 1879, giving an abstract of an inaugural thesis by M. Tiryakian on conine and its salts.

Conine or *conicine* is a very unstable compound. As commonly sold it is very impure, and gives very variable results, when pure it has a powerful irritant and even caustic local action. Its hypodermic use should, therefore, be a subject of careful consideration, and should not be rashly adopted. It appears to be more active when ingested into the stomach than when injected into the stomach subcutaneously. In the latter case it does not completely disappear, the channels of absorption being partially destroyed by its local action. Hence it should, as a rule, be administered by the stomach. It acts as a poison, both on man and animals; but the organism speedily tolerates it, and owing to this toleration it is necessary constantly to augment the dose. There is no danger under these circumstances of a cumulative action being exerted, since conine is rapidly eliminated from the system.

Five grains of conine injected in divided doses into the veins of a moderate-sized dog, are eliminated in the course of two hours, provided any symptoms of asphyxia be removed by artificial respiration. The toxic action of conine may be divided into three stages. The first stage is characterized by depression and a feeling of sadness. General rigors then supervene, which are coincident with the acts of inspiration, and about the same time there is loss of power over the limbs. During the second stage the rigors are more distinctly marked; the respiration is considerably interfered with, becoming incomplete, rapid, and sometimes accompanied by chattering of the teeth; the pulse is quickened; reflex excitability is increased. This period lasts from half an hour to an hour. The third period is characterized by the diminution of the convulsive phenomena, the

*This plant is frequently spoken of as the same as *Cicuta Maculata*. Water Hemlock. See Am. Weeds and Useful Plants. Revised by Thurber, p. 152-153.

diminution and abolition of reflex irritability, slowing of the pulse and of the respiration, visual disturbances, and finally profound collapse. A fourth stage might perhaps be added according to whether the collapse is followed by death or recovery. In the latter case the animal passes through the same phases of intoxication that it had previously presented, only in an inverse order. Sensibility first returns, violent rigors are then observed, the respiratory and cardiac movements gradually regain their former strength and volume, the animal begins to be capable of performing spontaneous movements, the locomotive power is recovered, a drunken condition follows, and at length, in the course of an hour or two, it walks and runs with ease, appearing only to be a little depressed. Conine is neither a muscular nor a cardiac poison : it acts essentially on the cerebrospinal centres. The substance which acts on the peripheral extremities of the motor nerves is not conine—it is a kind of empyreumatic essential oil, which M. Mounut has extracted from conine supplied from Germany, and which probably exists in all commercial specimens of the drug. The chlorhydrate and bromhydrate of conine are stable salts : they induce symptoms which are identical with those of conine itself, but are more energetic. The fatal effects of a poisonous dose of these substances seem to be due to asphyxia.

Physiological antagonism between conine and strychnia is possible ; but has not been demonstrated. The convulsions caused by strychnia can, however, be suppressed by conine. To obtain any sensible effect of the bromhydrate of conine in an adult man, a dose of, at least, 1-5 grains is required, and the quantity may be increased to three, four, or five grains, according to the effects required or the tolerance of the remedy exhibited by the patient. The bromhydrate is rapidly eliminated by the skin and lungs, hence the dose should not be too small nor must too long an interval be allowed to intervene between two doses.

As much as fifteen grains of conine, and, perhaps, more may be given in the course of twenty-four hours, in the form of pills, syrup, or draught, or the same quantity may be administered subcutaneously, as the bromhydrate does not appear to exert any local stimulant action. The symptoms in man closely resemble those observed in animals. They are, briefly, great muscular weakness,

lassitude, fatigue, heaviness of the eyelids, heaviness of the head, difficulty of walking, sleep, or often, rather a state of torpor without sleep; the intellectual faculties are perfectly preserved. There is no aberration of the sensibility, except sometimes slight hyperæsthesia and tingling of the fingers and toes, but it is never perverted or diminished. Vision is sometimes temporarily disturbed. Objects being seen as through a fog—there is no cephalalgia or vertigo. The pupils undergo no alteration, the pulse remains unchanged. There are no disturbances of the digestive tract: neither nausea, vomiting or diarrhœa. Respiration, secretion, and the temperature of the body are unaltered.

Infants at the breast are not affected by conine when it is administered to the mother, and they bear small doses well. The author thinks that conine will be found to be of service in bronchitis or phthisical cough, and in nervous cough, in whooping cough, in epilepsy, or neuralgic or articular pain. It is rationally indicated in cases of hyperæsthesia, in chorea, convulsion and trembling, and in tetanus.

YELLOW FEVER REPORTS.*

The accumulation of yellow fever literature is now so vast, that it is not the proper time to attempt a digest. We cannot attempt any more than to give an outline of the work before us. It has many admirable features, and no doubt, will have a marked influence on the summary of our knowledge.

The report of the committee includes details of cases of yellow fever developed in St. Louis, in persons coming to the city from southern cities where yellow fever was prevailing. These individual cases are reported to the committee by physicians who had them in charge.

*Reports of the St. Louis Medical Society on Yellow Fever; consisting of the Report of the Committee appointed to inquire in the Relations of the Epidemic of 1878, to the city of St. Louis, and a Report of the Meteorological Conditions and Etiology of Yellow Fever, &c., &c., by W. Huston Ford, A. M., M. D.

The state of affairs at the Quarantine Hospital is given by Mr. C. M. Francis, Health Commissioner, and this is accompanied by an explanatory diagram.

The general conclusions reached by the committee are, in brief, that

Yellow fever may be acquired at St. Louis by contact with persons sick with that disease, and with the apparel of persons who have been in contact with the sick; by entrance into the holds or apartments of steamers, or by communication with cargoes.

2d. Yellow fever, or at least an equally fatal disease in no way distinguishable from yellow fever, and like it, contagious, may be generated in loco by bad sanitary conditions in this city and its suburbs.

4th. Individuals weakened by disease, and especially the subjects of malarial fever, evince the greatest readiness to acquire yellow fever contagion.

6th. For the prevention of yellow fever in St. Louis, the most rigid quarantine possible should be established * * * * to be maintained until the month of November, or a permanent decline in the weekly mean temperature to 40°.

* * * * *

11th. The cardinal property of yellow fever, so far as St. Louis is capable of being invaded by the disease, is its undisputed contagiousness. * * * * *

Dr. Ford concludes the volume with a report on the meteorological conditions and etiology of sunstroke, cholera sporadica, malarial diseases and yellow fever. This part of the work is more than a mere report, and should be entitled a dissertation, or by some name that would indicate its controversial character.

Dr. Ford makes a confession of faith in his introduction, to the treatise on yellow fever, in which he declares it to be "not a peculiar or specific type of fever, but simply a malignant form of *typhus gravior*." That it is contagious in varying degrees, according to the susceptibility of those exposed to it, and very probably most contagious when most malignant. It is primarily caused by the action of the effluvia of animal putrefaction upon the human body under cotemporary conditions of high atmospheric heat and humidity. Wherever it appears, it is caused in the first instance, by the emanations from putrefying animal matters, more especially the urine and feces of man and animals, and is propagated by its own *materies contagiosa*.

We cannot follow our author through the mass of material he has gathered, but give extracts of concluding paragraphs on etiology.

"The day has come when we must forever cast aside this jejune doctrine of exclusive importation; knowing its fallaciousness, we must henceforth refuse to be seduced into apathy by its treacherous seductiveness; knowing its falseness, we must peremptorily refuse to be led by the men whose lack of insight has allowed communities entrusted to their care to slumber in the very jaws of death.

"It is constantly affirmed that the southern cities are not in a bad sanitary condition, and that many parts of the finest cities north of latitude 38°, are in quite as bad a condition as any of them. This is altogether a misstatement, and if true, would signify very little indeed. For the last twenty-five years, I have keenly watched these points, in a quiet way, and in the principal southern cities. Then hygienic difficulties, owing to a location in almost every case, on low flat plains near the ocean or rivers, or on the Gulf of Mexico, are almost insuperable. No natural cleansing, like that which occurs in cities built on elevated undulating ground is possible—all must be artificial. But at the same time, cow-yards and stables—are universally permitted, and above all, the execrable system of privies without drainage, built in the ground, is practiced in every one of them."

Dr Ford treats very extensively of the use of *veratrum viride* in yellow fever. The whole tenor of this part of his dissertation shows a degree of enthusiasm for *veratrum* which we thought had well nigh died out. He claims that by this treatment there is a reduction of the mortality to one-third or even less than this, of what is usual in other modes of practice. * * * * Under *veratrum* treatment, convalescence sets in very promptly, and is almost invariably uninterrupted. There are very seldom any sequelæ of consequence. Black vomit is rare, and is often recovered from, especially in children. Hemorrhages, jaundice, and suppression of urine seldom are seen.

We trust Dr. Ford's estimate of *veratrum* is sound, for after seeing the very charming effects of *veratrum* in puerperal fever, we are inclined to partake of the writer's enthusiasm. We hope it will be more extensively used, and will look with increased interest for further observations on the subject.

YELLOW FEVER.*

Who else but the author of this contribution to the literature of yellow fever could write such a paper as this. The most diligent student in America would stand appalled at the labor necessary to cover the ground gone over by Dr. Jones. In the very outset of it, he lays out the task as he thinks it ought to be done, in fifteen propositions. "The investigation of any specific disease" he says, "should embrace

1st, its origin in time and space; 2d, history; 3d, relations to climate, soil and waters; 4th, relations to race, food and sanitary conditions, habits and occupations of human beings; 5th, accurate records of the symptoms at stated periods of the day and night, exhibiting the changes of temperature, pulse and respiration, and unfolding accurately the manifestations of the nervous, muscular, cutaneous, circulatory, alimentary and urinary systems; 6th, microscopical examinations of the blood, associated also with microscopical and chemical analysis of the air and waters; 7th, chemical analysis of the blood; 8th, chemical and microscopical analysis of the urine, sweat, saliva, gastric and intestinal juices and excretions and morbid products; 9th, chemical and microscopical examination of the various organs and secretions as the bile; 10th, post-mortem observations of changes of temperature; 11th, post-mortem examinations, embracing accurate details as to the physical, chemical and microscopical characters of the solids and fluids; 12th, prevention; 13th, prophylaxis; 14th, treatment; 15th, relations of symptoms, pathological chemistry and physics, and pathological anatomy, to analogous conditions and changes, in related and diverse diseases."

The task is completed in the short space of little more than a hundred pages, and in a way that would have done the heart of the great Louis good to have seen.

The history of malarial fever is sketched, but more particular attention is paid to the history of yellow fever. Dr. Jones concludes that yellow fever finds no place in the annals of general history, or of medicine previous to the discovery of America by Columbus.

The question "Was yellow fever known to the aborigines of America before its discovery by Columbus?" is left in doubt, but he gives the analogies between the Mexican pestilence, *matlazahuatl*

*Comparative Pathology of Malarial and Yellow Fevers. By Joseph Jones, M. D., Prof. Chemistry and Clinical Medicine, University of Louisiana.

and yellow fever. The latter pestilence desolated the cities of the Toltecs in the eleventh century, and forced them to abandon Mexico, and to continue their migration southward, to the north and northwest; it invaded the populous cities of Central America, and a similar disease committed ravages amongst the Indian tribes which occupied the country between the mountains and the Atlantic coast a few years before the landing of the Pilgrim Fathers. The matlazahuatl resembles to a certain extent the disease known in the Southern States since the war, as malarial hæmaturia, a disease which has been attended with a high rate of mortality. Dr. Jones makes the following comparison between yellow fever and malarial hæmaturia.

“ Malarial hæmaturia (*hæmogastric malarial fever*), as a general rule, occurs only in those who have suffered from repeated attacks of intermittent fever, or who have been enfeebled by a prolonged attack of remittent fever, or whose constitutions have been impaired by bad diet, excessive labor, and frequent exposure to cold and wet and the exhalations of swamps and marshes. And whilst some of the symptoms—as the nausea, incessant vomiting (and in extreme cases black vomit), deep jaundice, and the impeded capillary circulation—resemble those of yellow fever, yet there are marked differences between this disease and yellow fever. The presence of albumen in the urine of this so-called malarial hæmaturia is attended also with the presence of colored blood-corpuscles, excretory cells of the kidney and of the tubuli uriniferi. The excretory tubes of the kidney appearing in the urine are often impacted with colored blood-corpuscles, and deeply stained by the coloring matters of the blood. As a general rule in yellow fever, the tubuli uriniferi are loaded with yellow, granular, albuminoid and fibroid matter. In some cases immense quantities of green biliary fluid, or liquid tinged with bile, were vomited, and the patients died in a state of collapse, with blue mottled and purplish extremities, and sunken, pinched features. As a general rule, suppression of the functions of the kidneys was a fatal sign, and as in yellow fever, was sometimes attended with convulsions, coma and delirium. Careful examination of the blood revealed a marked decrease in the fibrin and colored blood-corpuscles; in fact, this change in the blood was characteristic of all cases of this disease which have come under my

observation. The pathological changes which I have observed after death from malarial hæmaturia are characteristic of paroxysmal malarial fever, and not of yellow fever—viz. : enlarged slate-and-bronze-colored liver, loaded with dark pigment granules, deposited in greatest numbers in the portal capillary net-work ; gall-bladder distended with thick, ropy bile, presenting when seen *en masse*, a greenish-black color, and in thin layers a deep yellow. As much as 1000 grains of bile of high specific gravity has been obtained from the gall-bladder, whilst in yellow fever not more than 120 grains of bile are, as a general rule, contained in the gall-bladder.”

Dr. Jones’ review of the history of pestilences similar to the yellow fever, drawn from sources extending as far back as 1545, leads him to the following conclusions :

1st. As destructive and extensive pestilences, resembling yellow fever, have destroyed the aboriginal inhabitants, in former times, when they formed a numerous and comparatively dense population, we are justified in holding that the American Continent has been in past ages subject to the wide spread terrestrial, celestial and climatic conditions which were hostile to human life.

2d. The experience of the past leads to the belief that such destructive combinations or conditions may occur in the future and cause wide spread destruction uncontrollable by human means.

3d. Yellow fever has, since the advent of Europeans in the Antilles, and in North and South America, prevailed at various periods, separated by no uniform intervals, with great violence and during such periods its area has been widely extended, as in 1878.

4th. However perfect the sanitary arrangements and complete the quarantine regulations of cities situated within certain parallels of latitude, it is probable that in seasons of great epidemic influence, human agency may fail in the circumvention or arrest of the American plague.

5th. In insular, tropical and subtropical America, one of the most essential conditions for the increase of yellow fever, is the accession and crowding of unacclimated persons, natives of the colder regions of America and Europe, in cities or on ship-boards. Armies and navies are the great fields of its ravages.

Bringing the history of yellow fever down to a more recent time we have the following significant extract :

“The immunity of New Orleans from yellow fever in 1863, 1864 and 1865, can no more justly be referred to the sanitary measures of the United States Government during this period, than to those of the city and State, and Confederate Government in 1859, 1860, 1861 and 1862, when New Orleans enjoyed an almost equal immunity from yellow fever, the deaths from this disease being in these years respectively, 1859, 92; 1860, 15; 1861, 0; 1862, 6. We have no data to show the actual number of deaths amongst the Federal troops on land and water in and around New Orleans, 1863-1865; that yellow fever was present during this period and that it *originated de novo in the port of New Orleans* is well established.

“Dr. Elisha Harris, in his article, ‘Yellow Fever on the Atlantic Coast and at the South during the War,’ established that ‘Yellow fever visited twenty-five vessels in the fleet anchored in front of New Orleans during the summer of 1864, and that the disease appeared first, namely, as early as September 12th, in vessels that had been for a long time anchored there. Filthiness, crowding, excessive heat and moisture, and utter lack of ventilation and lighting, together with the stagnation of the local atmosphere of these oven-like boats, incident to anchorage in a tideless stream, constitute the leading facts relating to the infected vessels.’”

Dr. Jones give the statistics of the ingress of population, and cites the prevalence of yellow fever in relation to crowding, and says :

“We have thus established a close relationship between the origin and spread of the yellow fever in New Orleans and the accumulation of unacclimated persons.”

The relations of malarial and yellow fevers to climate are considered in a very minute way. Statistical tables and meteorological conditions, having special reference to the city of New Orleans, are arranged with great care. Dr. Jones seems to have traversed the whole range of accessible literature.

The general outline of the symptoms and pathological anatomy of yellow fevers is arranged in parallel columns to facilitate comparison. We had intended to extract enough of this portion of the work to give the reader an idea of its value, but must be satisfied with such an outline as we have given. We expect from the intimation given in this contribution that much of this work will find a permanent place in the 2d volume of Dr. Jones' Medical and Surgical Memoirs.

THE YELLOW FEVER "GERM," ON COAST AND INLAND-SHIP AND RAILROAD QUARANTINE.*

A brief synopsis of Dr. Campbell's views we will undertake to give, although the pointed arguments he makes, deserve a fuller consideration.

Speaking of FILTH as a cause of yellow fever, he first declares, and he wishes it so understood that "Freedom from filth, is the first, the last, the most indispensable condition of the maintenance of the public health. And yet, the general unquestioning acceptance we all give to this universally acknowledged principle, has sometimes led us widely astray, and blinded our minds to the recognition, in particular instances of other factors, which are in some cases equally, and in a few others incomparably more important and influential in the origination of diseases."

For illustration, he does not believe that any amount of filth could engender *per se*, small-pox, measles, whooping cough, and scarlatina.

"My own views may be thus generally expressed :

"1st. That the origin and propagation of yellow fever is dependent upon what may be recognized by its effects as a specific germ—at present hypothetical, but not more so than other forms of atmospheric poisons, malaria, etc.

"2d. That this germ is an exotic wherever it may be found in any of the localities of this country—probably domesticated in certain localities, as New Orleans, so as to have become feebly naturalized, or *quasi* indigenous at times.

"3d. That the assemblage of phenomena recognized and called by us "yellow fever," and which are of a specific and uniform character, owe their specificity and uniformity to the specific nature and unvarying form of this atmospheric germ, in the same manner as do small-pox, measles and scarlatina owe their specificity of form to the peculiar contagion which had originated each one of them. In the same manner, to be more familiar, as do the narcotism of opium and the tetanus of strychnia owe the specificity of their manifestations to the varying physiological effects of these two toxic agencies in the blood of the subject.

"4th. As without the specific virus, we could never originate a case of small-pox, so do I believe, without the specific germ, no condition however unsanitary—even did we accumulate filth, piling

*Paper read before the Medical Association of Georgia, Rome, April 18th, 1879; by Dr. Henry F. Campbell, Augusta, Ga.

it up from the pavement to the sills of the second-story windows—would enable us to manufacture a single case of genuine yellow fever. We might poison and kill the entire community with indigenous germs, some forms of which are even more promptly and surely fatal than the terrible and mysterious exotic itself; but without the yellow fever germ, hibernated or recently imported, we can have no yellow fever in its genuine and indubitable individuality.

“5th. Comparing then, that which is minute, intangible, and as yet hypothetical, with that which is gross, common and cognizable to the senses, I would as hopefully look for spontaneous origin to be given to a banana, a pineapple, or a plantain, by some particular preparation of our soil, as I would expect a case of yellow fever to originate in any of our ports or inland towns without the previously imported germ as the source of its inception. The exotic germ is no more naturalizable than the exotic fruits—even less so.

“6th. Though I regard the germ as indispensable to the origination of the disease, I would, by no means, be understood as abating, in the slightest degree, the imperative necessity for the strictest purity, otherwise, of air and water. I can conceive of such purity in the surroundings of a locality into which these germs might be introduced as would fail in giving them the support necessary to their propagation, and it is true that propagation is less active and their decline more rapid in localities where sanitation has been untiringly enforced than in neglected and unwholesome places.”

Dr. Campbell has very decided reasons for relying upon the quarantine, “even considering all the acknowledged failures in the past.”

WÄCKE ON DELIRIUM TREMENS.

Dr. Wäcke having had ample opportunities of studying this affection, has arrived at the following conclusions:—1. Delirium tremens potatorum is always caused by an abuse of liquor, which has extended over a certain time. The outbreak of the delirium is generally due to some psychical or physical emotion, *e. g.*, an epileptic fit, or a state of intoxication. If the patient is much reduced in strength, or has had already repeated attacks of delirium, a slight cause may produce the attack. 2. The quantity of liquor which will cause delirium, or the length of time which precedes the

outbreak of the affection, varies according to individuals, the climate, the race, and social position. Wine and beer act much more slowly in causing delirium than brandy. This is the reason why the affection is so commonly met with in countries where much brandy is consumed, as in Russia, America, etc. 3. Spirits distilled from potatoes seem to have a more deleterious effect than others, probably because they contain so much alcohol of amyl. If the patient is in the habit of mixing different sorts of liquor, the affection is apt to break out at a much earlier period than if only one sort is taken. 4. Social and climatic conditions seem to exercise a considerable influence on the frequent occurrence of delirium tremens, as it is less frequently met with in wealthy countries. 5. The female sex is less exposed to delirium tremens than the male among the working classes; persons who are exposed to the vicissitudes of the weather, or who have much to do with spirits, *e. g.*, innkeepers, waiters, etc., are more liable to contract it. It occurs most frequently in individuals between 30 and 50 years of age, especially between 35 and 40. The youngest patient was 18 years old. The greatest number of cases have come under notice late in the latter part of autumn and in summer. 6. In 5 per cent. of the cases, the affection is merely an abortive form of the disease; it might perhaps be regarded as a delirium tremens which has not gone beyond the prodromal stage. This slight form frequently, at a later period, develops into the genuine delirium tremens. In the female sex, this abortive form is met with as a rule, and the real delirium tremens only in very exceptional cases. 7. Another form of the affection, which is little known and very seldom met with, is the chronic delirium tremens. The author gives this name to a series of abortive paroxysms, which are preceded by an acute well-defined attack of delirium tremens. There are generally more or less lucid intervals between the attacks. This condition lasts for weeks or even months, and the prognosis is very bad. 8. The prodromal state generally extends over two to three days. The characteristic symptoms of delirium tremens are, among others, great thirst, an increased secretion of sweat, and more or less acute digestive troubles. 9. In one-third of the cases there was a slight febrile movement; the temperature, however, did not go beyond 100.6°. A high temperature would be a symptom of some internal inflam-

matory process. The febrile movement does not occur during the prodromal stage, and as a rule only on the first day of the actual delirium. The author explains it as a mere rising of the physiological exacerbation of temperature which occurs at night. The pulse and respiration were normal. 10. In 82 per cent. of the cases there was albuminuria (renal and cardiac affections excepted). In one-fourth of these cases this transitory albuminuria was complicated with fever. The albumen increased in proportion as the temperature rose; but not in proportion with the delirium. It generally vanished as soon as the paroxysms were over. It appears from some chemical tests that an exceedingly small amount of phosphates is excreted at first, and that it gradually increases during the course of delirium tremens. 11. The hallucinations are mostly illusions of sight and hearing; occasionally the taste and tactile perception are also affected. The patient is in a state of profound depression; he is surrounded by phantoms which persecute him. In one-third of the cases the patients had visions of animals, and contrary to the usual assertion, they saw large animals, not merely small ones. The visions vary very often, so does the patient's state of mind. 12. All the symptoms of the affections exacerbate at night; even after a good night's rest they are apt to recur. 13. The death-rate from delirium tremens vary very much. The first paroxysm is, as a rule, the most dangerous one. In no case has the *post-mortem* examination revealed any peculiar changes in the body. 14. Narcotics, if given at the onset of the affections in moderate doses, seem to shorten its duration, and to render it less violent. Three to five grammes of chloral given in two doses, generally induced sleep; the dose had often to be repeated. Straight jackets, straps, etc., ought never to be used, as they are apt to produce hallucinations. In cases where the patient is likely to be very violent, the author advises that he should be shut up in a warm padded room by himself, and be dressed in untearable garments.—*London Medical Record*.

The intense itching in jaundice is promptly relieved by the hypodermic injection of 1-10th to 1-5th grains of muriate of pilocarpia. In one instance its employment to overcome the itching, had also the effect of causing a copious alvine evacuation.

REVIEWS AND BOOK NOTICES.

MATERIA MEDICA AND THERAPEUTICS. Vegetable Kingdom. By CHARLES D. F. PHILLIPS, M. D., F. R. C. S. E. Edited and adapted to the U. S. Pharmacopœia. By Henry G. Piffard, A. M., M. D. New York: William Wood & Co., 27 Great Jones Street. Pp. 323.

In this work, which includes only the vegetable materia medica, the arrangement is after the botanical order, less convenient than the alphabetical plan, especially to the American student, who pays no attention whatever to botany.

Each article of the Materia Medica is treated as follows: The officinal and botanical names are given. The active ingredients of the drug are described. The physiological action is next in order, followed by the therapeutic action, then the preparations into which it enters, and the dose. Many articles are treated fully, that hold only subordinate places in our standard works, and the notes of the American editor, short as they are, add greatly to the value of the work.

The following abstract from the article on apomorphia will prove interesting :

Apomorphia, discovered by Matthiessen and Wright in 1869, is made by heating morphia for two or three hours in a close tube, with a large excess of hydrochloric acid, the result being the formation of the new substance. It is precipitated with bicarbonate of soda, and the precipitate removed with chloroform or ether. The solution is treated with hydrochloric acid, when chloride of apomorphia deposits on the sides of the vessels. It is afterwards precipitated with bicarbonate of soda. Pure apomorphia is a snow-white substance, rapidly changing to green upon contact with the atmosphere: when it has become green it is partially soluble in water and in alcohol, forming in either case a beautifully colored solution.

The therapeutical history of this new drug is given, showing its first successful application to produce vomiting. In addition to this property, wonderful enough when we think how widely it differs from all opium preparations, he says there are reasons for thinking that apomorphia may act as a contra-stimulant or antiphlogistic

sedative. He further remarks that, although the action of small doses of apomorphia on man are so extremely unlike that of small doses of morphia, the poisonous action of large doses of these alkaloids on cats is very similar.

In speaking of turpentine (p. 105) the *oil* of turpentine is evidently mentioned. A dose of two or three teaspoonfuls of turpentine could hardly be given in its crude state.

This volume belongs to Wood's Library of Standard Medical Authors, and it, together with the others of the series, deserve an extended circulation.

Jaborandi seems to be mentioned by the editor, only to give warning against its indiscriminate use. (P. 140). "We have not had as yet sufficient experience with it to hazard any conclusions concerning its practical utility."

THE ADVANTAGES AND ACCIDENTS OF ARTIFICIAL ANÆSTHESIA :
A Manual of Anæsthetic Agents, and their Employment in the
Treatment of Disease. By LAWRENCE TURNBULL, M. D., Ph. G.,
&c., &c. Second Edition. Revised and Enlarged. Philadelphia :
Lindsay & Blakiston. 1879.

The administration of anæsthetic agents has been studied very thoroughly in the last few years, and the accumulation of experience renders it necessary that a separate treatise should be devoted to it. This is the best book we have seen on the subject, since the articles of Mr. Vivian Pavre in the *Lancet* several years ago. Much of the material we find here could well be left to a regular treatise on *materia medica*.

The author has collected a number of cases of death from ether, and enough of deaths from chloroform to construct a folding table. In ten years, seventeen deaths from chloroform have occurred in this country, and many less of ether. When more attention is paid to anæsthesia in surgery, fewer deaths will probably occur. It is not reasonable to expect that there can be perfect safety in a condition so dangerous as anæsthesia, and the doctor who informs himself from the work that Dr. Turnbull has given to us in such attractive form, he will anæsthetize his patient carefully, and learn never to undertake the simple performance without fresh impressions of its possible danger. The doctor who divides his attention between the surgery and the anæsthesia in a case is not fit for either.

We do not discover that Dr. Turnbull has given his acquiescence to the narrative of the priority of the employment of chloroform to Dr. Crawford Long, although his historical accounts are ample.

ON COUGHS, CONSUMPTION, AND DIET IN DISEASE. By HORACE DOBELL, M. D., F. R. M. C. S., etc. Philadelphia: D. G. Brinton, 115 S. Seventh Street. 1879.

"This work has been made up of a series of extracts so arranged that they form a connected treatise on the diagnosis and treatment of some of the most common diseases of the respiratory organs. These extracts have been drawn from the various published lectures of Dr. Horace Dobell, of London, one of the most accomplished physicians of our day."

The editor has divided it into three parts: 1. The Diagnosis of Bronchial and Pulmonary Diseases. 2. The Treatment of Colds, Coughs, and Consumption. 3. The Principles of Diet in Disease. Much that is of value has been collected under these heads, many small things which in the aggregate are of great importance, but which nevertheless are usually slighted.

The authors of our times are very much subject to the caprices and fashions of medical readers. A few years ago Dobell's theory and practice of giving pancreatine to patients in the early stages of consumption, was quite the rage, and the theory seemed to be borne out by the practice. Now we less frequently hear of it, and Dobell is passed by for the new book just out. A careful reading of this book will show how marked an influence it has had on the present practice in phthisis, especially as to the dietary.

MEMORANDA OF POISONS. By THOMAS HAWKES TANNER, M. D., F. L. S. Fourth American Edition. Philadelphia: Lindsay & Blakiston. Pp. \$2.00.

All of Dr. Tanner's works have met with an appreciative reception from the American and medical profession. This little work is a ready reference volume of no mean value, and fills a place in the library quite as well as some of the more pretentious works. Accuracy and conciseness are the prominent features, although one exception to this statement is, that on page 184, in speaking of "abortives" he mentions that "In America extract of *Cotton-wood*

has a reputation as an abortive." The reference here made is evidently to *Gossypium*, as *Cotton-wood* has no such reputation.

The next revision of the work must necessarily include apomorphia as an emetic, and nitrite of amyl as an antidote to chloroform.

THE SUMMER AND ITS DISEASES. By JAMES C. WILSON, M. D., Philadelphia: Lindsay & Blakiston.

This is the third in the series of American Health Primers. Its object is "to point out some of the peculiarities of the summer climate; to show what season influences at the time act unfavorably upon the public health, and to suggest such means as will best enable each individual to escape the sicknesses peculiar to summer by avoiding the causes which give rise to them."

Physicians frequently find it a convenience to recommend sound and instructive books written within the comprehension of his patients, and many will no doubt call attention to this one, as comprising these qualities.

ANNUAL REPORT OF THE NORTH CAROLINA EXPERIMENT STATION. For 1879. Printed by order and at the expense of the Board of Agriculture. 1879. Raleigh, N. C.: The Observer, State Printer. July, 1879. Pp. 200. 8vo.

Our farmer-doctors now have a double interest in the work being done by the Agricultural Department. The Director of the station, Albert R. Ledoux, A. M., Ph. D., is a member of the North Carolina Board of Health, as well as chemist to the latter body. The work he has in hand for the Board of Health is of great interest to all citizens, and this report increases our assurance that the very best arm of our health law is in the hands of one competent to perform it with accuracy and good judgment.

The variety of subjects treated in this volume shows how broad a range of work can be accomplished by the persevering industry of an educated man. We are pleased to see that Dr. Ledoux has called attention to the danger of impure seeds, and that he discusses the parasitic *dodders*, *à propos* to the introduction of it in some clover seed sent for examination. One of the species of dodder (*Cuscuta epilinum*) was an old time pest in Orange county, infesting the flax. We presume it disappeared with the abandonment of

the unprofitable crop, as cotton came into the market as a competitor.

Those farmers who know the facts or the tradition of the trouble *dodder* gave, will be glad to learn how to recognize the difference between these and clover seeds.

The identification of the *velvet meadow grass* as *Holcus lanatus*, and a confirmation of its merits, as a productive and excellent forage grass, tenacious of life, and suited to poor land, is worth a thousand learned essays on the chemistry of farming.

An examination of soil from Savannah lands, sent by Mr. D. S. Cowan, of Brunswick county, clearly entitles these lands to the name of barrens given them by Michaux. He shows that sand, water, and a very small percentage of organic matter constitute the soil, there being only a trace of lime and no potash. This shows that it would not pay to put such land under cultivation, but that it had better be left to the native coarse grasses and dog-tongue (*liatris odoratissima*) which make the Savannah lands appear so beautifully green. It is in such soil too, that the wonderful Venus fly-trap flourishes.

We have exceeded the limit of our space, because of the importance of this subject in its double relation to the body of the profession.

ON THE DISEASES OF THE STOMACH, The Varieties of Dyspepsia, Their Diagnosis and Treatment. By S. O. HABERSHON, M. D., Lond. Third Edition. Pp. 323. Lindsay & Blakiston. Philadelphia.

The beautiful type of this neat volume attracts at once the attention of the reader, and soon he is interested in the contents. This work has gone through this, the third edition, which speaks well of the esteem in which the author's teaching is held.

The author writing of the changes of digestion at different periods of life give this valuable paragraph for the benefit of elderly people :

"Some of those who have attained to advanced age are unwilling to depart from the habits of earlier years ; it is with them very important that, during the hours of the night some bland nutriment should be taken, if there be wakefulness ; and although late

heavy meals are very undesirable, still the exhaustion which comes on during the hours of night is often followed by impeded circulation and faintness. It is thus the heart, during the night, not very rarely ceases in its action altogether; and the man who has retired to rest without any consciousness of danger is found in the morning lifeless. It is equally injurious so to excite and oppress the system by improper diet and stimulant, as to endanger the integrity of the minute ossified vessels of the brain, and thus cause an apoplectic attack." (P. 34.)

DISEASES OF THE INTESTINES AND PERITONEUM. By John Syer Bristowe, M. D., J. R. Waddell, M. D., J. W. Bigbie, M. D., S. O. Habershon, M. D., T. B. Curling, F. R. S., and W. H. Ransom, M. D. New York: William Wood & Co. 1879.

This, the sixth volume of Wood's Library of Standard Medical Authors, deserves the same favorable notices we gave the other volumes, and is fully up to the standard as far as typographical execution is concerned. It will fail to interest those who have already in their libraries, Reynold's Practice, as this volume is a reprint of the contribution on the same subject in that work. This so far from detracting from its merits however, adds to it, and affords an opportunity to procure this separate treatise at a small cost.

GUIDE TO THE EXAMINATION OF THE URINE, With special reference to the Diseases of the Urinary Apparatus. By K. B. HOFFMAN, Prof. University of Gratz, and R. Ultzmann, Docent at the University of Vienna. From the Second Edition. Translated and Edited by E. Forchheimer, M. D., Professor of Medical Chemistry at the Medical College of Ohio. Cincinnati: With illustration. Peter G. Thomson, Publisher, 179 Vine St. 1879. Pp. 200. Price in cloth \$1.50, in leather \$2.00.

There has been a marked increase of attention paid to uropathology in the past few years, and book after book comes to us, until the field seems now to be well occupied.

The arrangement of the work before us is a little different from any of the "guides" and "hand-books" we have seen. It commences with a chapter on the microscopic structure and function of the urinary organs "without a knowledge of which," the authors insist "comprehension of disease becomes an impossibility."

The physical characters and chemical constituents of the urine are treated, as far as they seem to the authors important to the practicing physician. The work concludes with a key to the method of examination, and a description of the simple, uncomplicated diseases of the urinary organs, in so far as they give signs that can be utilized for diagnosis.

We call attention to acetate on page 73, intended for acetate, and we notice several misprints and typographical errors, blemishes which detract from the handsome appearance of the work.

PHYSIOLOGY AND HISTOLOGY OF THE CEREBRAL CONVOLUTIONS, ALSO POISONS OF THE INTELLECT. By CHAS. RICHTER, A. M., M. D., Ph. D. Translated by Edward P. Fowler, M. D. New York: Wm. Wood & Co. 1879.

Following so closely upon the published work of Ferrier, Fritsch, and Hitzig, the work of Dr. Richter should present more than a review of the work done by these authors. The translator thinks that this work "seems a natural complement to Charcot's Localization in Diseases of the Brain," and that in the anatomical part is included the latest researches.

1. A historical review is made of the different opinions on the structure of cerebral convolutions, from Hippocrates to the present time.

2. A general arrangement of the convolutions.

3. Organized elements of the convolutions, a general resumé of which he gives as follows: (1). Pyramidal cells. (2). Giant cells. (3). Myelocytes. (4). Fusiform cells. (5). Amorphous substance. (6). Fibrillary nerve-prolongations. (7). The vessels with their lymphatic sheaths. And this leads to

4. Structure of the convolutions in general.

The second part of the work treats of the physiology of the convolutions, and this the author has illustrated with diagrams of convex and internal surfaces of the human brain, the names of the convolutions and other regions clearly printed upon them, after the manner of Gray's anatomy, and also a hemisphere of a dog's brain, after Ferrier. Indeed nearly all the cuts are from this author or Fritsch.

The author does not fail to give Dr. Bartholow a "dig" in a foot

note. He says: "He plunged needles into different parts of the brain, passed electric currents through these, and watched the results. The patient died two days after; but the needles had nothing to do with the death!" Dr. Bartholow, clearly enough, explained this matter, and our readers will know how much of the sarcasm he deserves.

The functions of the convolutions is in the concluding chapter. The motor, sensorial and intellectual functions are considered separately, comprising the most interesting part of the work.

In a few words the author embraces a conclusion of his work, "too hasty to escape imperfections;" the brain is not a simple organ, and "it would be a false path to seek therein a general focus uniting all the impulses, impressions and volitions."

The inferior vertebrata are very simple beings; their movements are very nearly automatic and seem to be reflexes of the least possible complication. But as one ascends the scale a perfecting apparatus in the cerebral gray cortex is added.

"The more the psychical, sensorial, and ideo-motor functions are developed the more the grey substance is developed. In the superior mammifera this layer of nerve substance has to assume folds and irregular volutions in order to find room in the cranial cavity. It is in this layer that the intellectual functions are elaborated, and from thence comes also the psycho-motor impulsions. The route taken by these impulsions is now known; it is by way of the white fasciculi neighboring the fissure of Rolando."

The Poisons of the Intellect appended to this work are considered, and they are alcohol, chloroform, haschisch, and coffee, and we cannot but regret that the space had been given to the further discussion of the physiology of the brain instead, though it is pleasant reading.

POCKET THERAPEUTICS AND DOSE-BOOK: With classification and explanation of the action of medicines, &c., &c. By MOSES B. STEWART, JR., B. A., M. D. Pp. 265. Price \$1.00.

We have had frequent occasion to refer to Dr. Stewart's book, and have found it to be all it pretends to be a remembrancer to be referred to in emergencies and cases of doubt. The subjects are arranged alphabetically, by "catch letters" in the margin, a plan

that renders it easy of reference. The doses in apothecaries weights in grammes are given, and a short but sufficient account given of the "Action and Uses" of the articles.

Formulas for hypodermic injections, vapor inhalations, nasal douches, &c., are given. Then follows a table of "solubility," supplemented by a table showing how ordinarily insoluble substances are rendered soluble. Incompatibles and Antagonists are now treated. and Diseases and Remedies form another useful section. Every practicing physician will thank us for advising him to buy this little book.

LEPROSY IN SCOTLAND.

Dr. Andrew Fergus in his late address on "Preventive Medicine" before the British Medical Association, gave some interesting items about leprosy.

The lady of Lochow built in leper-house at the Gorbals of Glasgow in the year 1350, but some hospitals were founded much earlier, even more than two hundred years before the Glasgow institution. In the burgh records for 1573 we find that the then magistrates ordered four persons supposed to be lepers, "to be visit, and gif they be found so, to be secludit of the town in the Hospital at the Brigand."

Another relic: In May, 1585, the authorities of Aberdeen built ports to prevent the entrance of people who might bring the infection. Gibbets were erected "one at the nearest cross, one other at the brig of Dee, and the third at Haven mouth, that in case any infectit person arrive or repair by sea or land to this brough, or in case any indweller of this burgh receive, house, or harbour, or give meat or drink to the infectit person or persons, the man to be hangit, and the woman to be drownit."

Now, the British doctor to see leprosy, must look to distant countries for a case.

THE STATUS OF THE STATE BOARD OF HEALTH.

Editors of the North Carolina Medical Journal:

According to an Act passed by the late Legislature, supplemental to an Act creating a State Board of Health, a number of the physicians of Buncombe county, met at Asheville to organize an auxiliary Board of Health.

After some discussion between the Mayor, Chairman of County Commissioners, and some of the older physicians present, it was decided that, according to the reading of Section 5, of the Act above referred to, no physician had the right to become a member of the auxiliary Board of Health who had not passed a successful examination before the State Board of Medical Examiners, unless he had been in the practice of medicine prior to the reëstablishment of that Board, which took place, I believe, in 1859. It was argued by some present that any physician, with a diploma from a "regular" medical school, was then "eligible" to membership in the State Medical Society, and therefore, had a right to become a member of the County Board.

If it be true that the County Board of Health is to be composed of those only who have passed favorable examinations before the State Board of Medical Examiners, and those who entered the practice before 1859, then several of our Western counties will be destitute of a Board of Health—destitute, at least, until some of the physicians pass their examination. And so long as the Medical Society meets so far away from our part of the State it is not probable that physicians in this end of the State will quit their practice to go and be examined, unless they were blessed with railroads.

Mr. Editors, I don't write this letter for publication but would like for you to give it some attention and let us hear from *you* on the subject in your next JOURNAL.

Respectfully,

W. LATTA REAGAN, M. D.

Weaverville, N. C., August 2d, 1879.

We thought it hardly necessary to repeat at this late day, that the condition of membership in the County Boards of Health, is that the physician applying shall have either commenced the practice of medicine in the State before April 15th, 1859, or have received the license of the Board of Medical Examiners. Diplomas from regular medical schools have no legal weight, and with our experience in the relative merits of candidates, we should say for the most part, they deserve none. It is violating no confidence to say in this connection, that the high name of a medical school is no criterion of the standing of the students graduated therefrom. On the other

hand it is not rare that the most satisfactory examinations before the State Board of Examiners are passed by medical students who have attended only one course of lectures.

The object of the law is to elevate the condition of the profession, by only permitting those physicians who have dutifully accepted the mandate of the State and received the license of her Board of Examiners, to become members of the County Boards of Health.

Distance of the meetings of the Board is not much of an obstacle to those gentlemen who fully appreciate its advantages, and we expect to see a large number of Western physicians come before the Board next May, in Wilmington. Doubtless at some future day, the meeting will be in Asheville or some western town, but this cannot be sooner than 1881. The younger men must bestir themselves, and take an early stand in the legalized body of the profession, and not regard it as a matter of indifference until the necessity actually stares them in the face.

If the Board of Health law does not mean that the legalized profession is to take the lead in all matters of sanitary reform, excluding positively those who cannot obtain the license of the State Board of Examiners, or who wilfully refuse to be examined for it, then its meaning is greatly misunderstood.

We are not merely answering Dr. Reagan's letter, but very many of similar tenor that reach us from time to time.

HARVEAN ADDRESSES.

In reviewing the American addresses on Harvey, the *Medical Times and Gazette* thinks Dr. W. S. Forbes, of Philadelphia claims more for Harvey, and is more jealous of his reputation than they are in England. Dr. Forbes claims that Harvey knew the use of the microscope and that he discovered "the exact channels" by which the blood passes from the arteries into the veins. Dr. Forbes quotes Huxley in opposition to this view, but says that the "compound microscope was discovered by Hans Zausz about the year

1590 ; and one of the microscopes was in the year 1617 in the possession of Alkmaar, who then resided in London as mathematician to King James. May not Harvey have known of it ? But if he did not, it does not require a compound glass to see the capillaries. "A common double convex-glass, magnifying only three and a half diameters, gives a clear view of these vessels." Harvey was in the habit of using a double convex lens ; and he saw and described the "punctum saliens" of the egg with what he calls "perspicilli." Is it not a fair inference that he could with the means at his command have seen the capillaries ? We venture to think that the fact he never says he saw them is quite sufficient.

The true meaning of the word *porositatis* is then considered, but is decided against Dr. Forbes, by weighty authority, to mean identically what the English word porosity now means.

We still believe that Harvey never saw, and did not know of the exact channels constituting what we call the capillary system. It was left to Malpighi to first see the circulation of the blood, and to demonstrate the capillaries.

Martin's Elastic Bandage.—Rushton Parker, M. B., F. R. C. S., &c., says in an article in the London *Lancet* (Am. Ed., September, 1879,) on treatment of inflammation of the joints by elastic pressure: "I do not therefore join in the indiscriminate welcome which some accord to Martin's elastic bandage, which is a sensational rival, in a decidedly deteriorated form, of a known and well-approved device that has never yet died out, and consequently not yet stood in need of re-discovery."

Horlick's Food sent to us for trial was given first to a case in which gastric catarrh and vomiting were troublesome. No food, not even milk would stay on the stomach. This succeeded.

In another case, hepatitis, with obstinate vomiting and loathing of food, this preparation was used with success, after champagne, Apollinaris water, &c., &c., had failed. Our experience with it as a food for infants is not sufficient to warrant an expression of opinion; certainly well children are very fond of it.

OFFICE OF SECRETARY OF N. C. BOARD OF HEALTH.

The following is a list of counties that have complied with the Board of Health Law passed by the last General Assembly to this date, giving the name of Superintendents of these counties :

COUNTY.	NAME AND POST OFFICE OF SUPERINTENDENT.
Alleghany	Dr. John L. Smith, Sparta.
Brunswick	" F. W. Potter, Smithville.
Buncombe	" W. L. Hillard, Asheville.
Cumberland	" W. C. McDuffie, Fayetteville.
Cabarrus	" F. M. Henderson, Concord.
Catawba	" Jas. R. Campbell, Newton.
Cleveland	" J. C. Gidney, Shelby.
Columbus	" M. R. Morrison, Whiteville.
*Craven	" Charles Duffy, Jr., Newbern.
Duplin	" J. D. Roberts, Magnolia.
Edgecombe	" A. H. McNair, Tarborough.
Franklin	" E. S. Foster, Louisburg.
Greene	" W. C. Galloway, Snow Hill.
Guilford	" B. A. Cheek, Greensborough.
Granville	" J. Buxton Williams, Oxford.
Halifax	" Isaac E. Green, Weldon.
Henderson	" J. L. Edgerton, Hendersonville.
Iredell	" Thomas E. Anderson, Statesville.
Johnston	" R. J. Noble, Selma.
Lincoln	" J. M. Lawing, Lincolnton.
Macon	" J. M. Lyle, Franklin.
Mecklenburg	" Hillory M. Wilder, Charlotte.
*Martin	" A. Hassell, Williamston.
New Hanover	" J. C. Walker, Wilmington.
Onslow	" W. J. Montfort, Jacksonville.
Pender	" W. T. Ennett, Asheton.
Pitt	" W. M. B. Brown, Greenville.
Person	" J. T. Fuller, Roxborough.
†Polk	" J. G. Waldrop, Columbus.
Robeson	" R. F. Lewis, Lumberton.
Richmond	" J. M. Covington, Rockingham.
Rowan	" J. J. Summerell, Salisbury.
Stokes	" L. H. Hill, Germanton.
Sampson	" C. Tate Murphy, Clinton.
Tyrrell	" A. C. Alexander, Fort Landing.
Union	" Isaac H. Blair, Monroe.
Wake	" James McKee, Raleigh.
§Watauga	" Wm. B. Council, Boone.
Wayne	" M. E. Robinson, Goldsborough.
Warren	" Geo. A. Foote, Warrenton.

*Correspondent. †Dr. Hassell is not a licentiate, and therefore is only recognized as a correspondent. ‡Correspondent. §Correspondent.

Some counties have formed Boards of Health and no notification has been made at this office. It is earnestly desired that the organization be completed in every county in the State. Necessary blanks and instructions are sent promptly. At present, the collection of vital statistics will be confined to causes of deaths. Prompt notification of the occurrence of Diseases Dangerous to the Public Health is urged.

The attention of County Superintendents is called to the following circular :

To the County Superintendents of Health :

In reply to questions frequently received by letter, as to the duties of County Superintendents of Health, the following general items of information are given :

THE DEATH RATE.

Preliminary to all work, the death rate should be carefully registered. It will be impracticable for the Superintendent to know, personally, of deaths and their causes in his County ; and in order to aid in the collection of these statistics, Memorandum Books are furnished for distribution, not only to members of the County Board of Health, but also to all practitioners of medicine in the County. In addition to this, No. 6, Death Certificate is furnished for distribution. In some sparsely settled counties deaths occur and there is no attending physician to give the certificate. In such cases it is best to send a blank to the officiating minister, as an unprofessional record is better than the failure to get the return.

DISEASES DANGEROUS TO THE PUBLIC HEALTH.

When such diseases occur, all diligence should be used to make early enquiry as to the origin of the first case, and prompt means adopted to quarantine them according to Section 9 of the Health Law. The physicians' and Householders' Blanks are furnished for distribution to physicians and intelligent householders, that all items necessary to complete the history of the invasions of the diseases mentioned may be investigated and written up.

MEDICO-LEGAL POST-MORTEM EXAMINATIONS.

With a view to uniform system for investigations under this head, a pamphlet containing minute directions, founded upon the German Law of 1876, has been prepared, and it is earnestly desired that the returns of examinations will be made complete.

BLANK "B" RETURNS.

The blanks issued are intended to be returned annually. A careful reading of it will show the scope of the observations necessary to carry out the design. The work could be entrusted to the members of the County Board of Health from the different townships, to whom a blank may be issued with explanations. The advice of the City or County Surveyor in the general report would aid the more accurate composition of the report. To elucidate the topography, sketch-maps of townships would be highly esteemed by the State Board of Health, with an ultimate view to publication. If these reports are fully made, the labor of making a sanitary map of the State will be materially lessened.

DRINKING WATER.

By consultation with Professor Ledoux, the Chemist of the Board, a plan has been agreed upon, which will enable him to make for the Board an examination of the drinking waters in the State. The Secretary especially desires the coöperation of Superintendents of Health in this work. It is desirable that several specimens of drinking water should be selected from every County, keeping always in view the necessity of having representative specimens, that a general idea may be obtained of the condition of wells and springs in a given neighborhood, town or city. Specimens recommended by Superintendents will have early consideration from the Secretary. In every case the packing must be done in accordance with Dr. Ledoux's circular, and the freight expense borne by the applicant, as no means have been given the Board for this purpose.

VACCINATION.

It must be insisted on, that every person entering the poor-house, work-house and jail of the County shall be vaccinated by the Superintendent upon his first visit after new inmates have been received, except in such cases in which he is satisfied that the persons are already protected. Our State has been so long exempt from visitations from small-pox that it is highly desirable that vaccination, the only certain prophylactic known, should be generously employed, that we may have continuous exemption. A pamphlet is in preparation on this subject, which will put before Superintendents much of the neglected literature of vaccination brought down from the

Jennerian times. Vaccine will be furnished according to the provisions of Section 11 of the Health Law.

ABATEMENT OF NUISANCES.

In proportion to the diligence and intelligence with which the County Superintendent carries out Sec. 10 of the Health Law, will greatly depend the sanitary condition of towns. Blanks are issued for the purpose of notification of nuisances, and will be furnished on application.

Superintendents of Health should furnish, as soon as practicable, a complete list of the members of the Board of Health in their County. This only includes those who are actually present at the meeting of organization, or who connect themselves with the Board afterwards. To such members will be sent all the printed matter issued by the State Board, and their assistance and coöperation is earnestly desired.

PERMITS FOR BURIAL.

It will promote the accuracy of mortuary statistics if the County Boards of Health will use their influence to have a rule made by the city corporation and cemetery associations, forbidding the burial of any person until a certificate is given by the last attending physician of the cause of death. This plan is largely adopted already, and is not considered burdensome by any.

Letters of enquiry upon any matters connected with the work of the State Board will be promptly answered; and suggestions looking to the advancement of the interests of the North Carolina Board respectfully solicited.

THOMAS F. WOOD, M. D.,
Secretary North Carolina Board of Health.

Valerianate of Quinine. There is really no valid evidence in favor of this drug. Indeed Gubler has gone so far as to say that the action of valerianic acid is positively antagonistic to that of quinine, and that the only reason why the compound is not perfectly inactive is that it becomes decomposed in the body, and the stimulant effects of the acid passing off rapidly, the quinine is enabled to assert its unchecked influence on the organism.—*Phillips' Materia Medica*, p. 227.

BOOKS AND PAPMHLETS RECEIVED.

Sexual Neuroses: By J. T. Kent, A. M., M. D. St. Louis: Maynard & Tedford, Printers and Binders. 1879. Pp. 144. From the Author.

Proceedings of the Louisiana State Medical Association at its second meeting. Held in the city of New Orleans, April 9th, 10th, and 11th, 1879.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Eighty-First Annual Session. Held at Baltimore, Md., April, 1879.

North Carolina Board of Health. Circular on Ventilation, Drainage, Drinking Water, and Disinfectants. State Printers, Raleigh. 1879. Pp. 14.

The American Journal of Electrology and Neurology. Edited by John Butler, M. D. Vol. 1. No. 1. New York: Boericke & Tafel, 145 Grand Street.

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THOMAS F. WOOD, M. D., } Editors.

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ORIGINAL COMMUNICATIONS.

NOTES ON LOW-TEMPERATURE OF THE BODY.

By J. R. L.

PULMONARY APOPLEXY WITH LOW-TEMPERATURE—RECOVERY.

Making choice of the better known term pulmonary apoplexy rather than pneumorrhagia to indicate a condition of sanguineous extravasation into the parenchyma of the lungs, I make record of the following case because of its comparative rarity :

Case I.—J. S., aged 38, swarthy complexion, spare, a native of Wilmington, has had repeated attacks of malarial fever. His skin is markedly pigmented thereby. He has frequently been treated for "liver complaint," he says.

On the night of the 3d of June I was called to see him, and his condition was as follows : He was tossing himself from side to side on the bed, breathing with great difficulty. Respirations 25 a minute, pulse 100. He was expectoring at very short intervals, large mouthfuls of a frothy substance, slightly tinged with blood. The chamber into which he had expectorated was filled with the

frothy matter discharged during the afternoon. His temperature was as follows :

At 8½ o'clock it was 35° C. (about 95° F.) ; at 9 o'clock it had fallen .4° C. ; at 9½ it fell additional .7°, remaining steadily at 34.4° C. —94° F., until 3 o'clock the next morning.

During all this time he was unable to swallow by reason of the dyspnœa and the almost constant presence of frothy fluid in his throat, although able to utter audible ejaculations frequently. He expressed himself as burning up, and had a nurse steadily fanning him. His entire cutaneous surface was moist with sweat, and there was cadaveric coldness.

I listened with great anxiety to his chest to make out what was going on, but there were such tumultuous râles, and violent agitation of the heart, and hurried costal movements, that nothing could be made out.

The pulse at no time rose higher than 105, and was of satisfactory volume.

My prognosis expressed to the family was of the gravest character, notwithstanding the pulse did not indicate imminent danger.

I administered two drachms whiskey hypodermically, and shortly after in the same way 30 minims of fluid extract of ergot, repeating it twice. He still complained of pain in the chest, begging piteously for relief. Against my better judgment, I gave him six minims Magendie's solution of morphia, when shortly after, the expectoration became less copious and more viscid, finally ceasing ; he became tranquil and the sweating ceased, and but for the integrity of the circulation, I would have considered his calmness, and the coldness of surface and low internal temperature (94°F.), as the precursor of early death.

June 4th, 10 o'clock A. M. Found the patient quiet, and breathing tranquilly, 18 to 20 a minute. His pulse was barely 85. Temperature 98.4°. There was dullness between the 3d and 4th rib and sternum covering an area of an irregular figure, whose long diameter was about two inches. There had been a little expectoration, which was of a viscid fluid streaked with blood. His complexion was still bad, and his face considerably puffed. There were moist râles over a portion of the superior lobe of the left lung.

June 10th. Patient has greatly improved, dullness considerably

bettered ; he is short-winded. There is no important defect in the heart's action. The sphygmograph (Pond's) gives occasionally a truncated apex—two or three in as many observations. He has resumed light work.

Case II.—June 30th. Called several miles up the Cape Fear to see S. F. P., 38 years of age, white, native. He had been suffering with cholera morbus all night, and was now complaining of cramp in his bowels. He was vomiting freely all the water he took. Nothing had remained on his stomach for several hours, but there had been no intestinal evacuations for more than an hour. When I first saw him it was 10 o'clock, his temperature was then 33.2° C. (92° F.) I recognized the algid stage of malarial fever, and injected $\frac{1}{2}$ grain of morphia, following it with 20 grains of quinine partially dissolved or suspended in strong vinegar. This was preliminary to a more thorough diagnosis, a measure so frequently resorted to by those of us used to seeing pernicious malarial fever.

A more thorough examination showed that his fingers were shrivelled, his pulse was almost imperceptible, but when it could be distinguished, did not go beyond 88. Deafness was well-marked, respiration shallow, eyes lustreless. Patient restless and anxious, complaining of internal heat, refusing to allow bed-clothes on him.

I ordered hot bricks and bottles to be placed around him, and had him covered with quilts.

At 11 o'clock the thermometer indicated 34.2° C. (93.4° F). All pain was gone ; he slept a few minutes at a time with his eyelids opened, the whites of his eyes showing. His deafness has diminished, his pulse is a little stronger, but still 88. His breathing is deeper, his voice is stronger ; (the patient has had dysphonia for many years) his stomach is very intolerant, retaining fluids only a few minutes.

At 12 o'clock, I injected additional 20 grains of quinine prepared with vinegar as before, (no other solvent at hand).

I left centigrade thermometer with the patient, with directions for it to be applied at 4 o'clock, and the result to be sent to the city to me by telephone. At 5 o'clock the message came that the patient was better, but the thermometer was at 32° C.—about 90.6° F.* This was an error which was probably made because he had

*I have no convenient way of estimating this as I write.

been eating ice, and did not allow the instrument to remain long enough in the mouth, although the nurse declared the observation was taken from contact in the closed mouth for five minutes.

July 1st. At 8½ o'clock the temperature taken carefully twice with centigrade thermometer was 36°=96.8° F. Pulse 88, not much stronger. He was still vomiting; his fingers were plumper than the day before; eyes had regained some of their lustre; tongue heavily coated with saburral fur. Hypodermic injections of quinine in hydrobromic acid were administered, in all forty grains at this visit.

[NOTE.—There were no resulting sores from these many injections of irritating substances. It was formerly my standing reason for not employing hypodermics of quinine.]

July 3d. Temperature returned to normal standard, convalescence being fairly established. The patient was rapidly restored to health.

Case III.—Mrs. F. had for several days been suffering with intermittent (quotidian) fever. I directed cinchonidia sulphate to be given—2 grs. every hour until six doses were given. Shortly after the last dose was taken I visited her, and found from the attendants that she had twice fainted. The thermometer indicated 35.4° C. (96.2° F.) Brandy was given, and in one hour the temperature went up to 39° C. (about 98.6° F). The hysterical element was predominant in this case.

The phenomena of low temperature have not been carefully observed, and the past records are singularly at variance.

Kingzett says in his "Animal Chemistry" (p. 180) "In cholera the body temperature sinks as low as 67° F. although carbon and hydrogen in the blood is oxidized in the usual manner and the products evolved."

Dr. Thudichum says (Aitken's Practice, Vol. 1, p. 623) that in cholera the temperature falls steadily from normal to 5.4° F. or 7.2° F., and in most cases very rapidly; but this would only bring the temperature down to about 93° F. to 91° F. From the same volume above quoted, we learn that Drs. Adams and Welch report as the results of their observations in Malta during the epidemic of cholera (1864) that 15° F. below the normal—about 83° F. was the lowest degree attained.

In my "Remarks on Continued Low-Temperature"* I had not

*North Carolina Medical Journal, Vol. 2, p. 238.

seen the temperature run down lower than 95°, but in Case II, the point attained was 92° F., a condition much resembling cholera as regards the stage of collapse. None of these citations seem to bear out Kingzett's statement, although I write from a clinical standpoint rather than from a knowledge of the records of thermometry.

The question would naturally occur in our observations of low temperature, "What is the lowest point, beyond which we must give our patients a fatal prognosis?" In cholera, according to Thudichum, the lowest temperature observed in any case which recovered was 92.8° F., whereas in my Case II—92° F. was reached, and the patient recovered.

In Case I, the hypodermic injection of whiskey was not successful, whereas the morphine injection caused an elevation succeeding the administration of it promptly enough to fix it in my mind. And in Case II, I was prompted to use the hypodermic injection for many reasons—the diarrhœa, the nausea, the cramp, all demanding it—this administration also resulting in rise of temperature. It is fair to say that the hypodermic use of quinine and the hot bottles may have had an equal share in bringing about this result.

In Case III quinine was substituted the succeeding days, and in the same quantities, but no such condition of lowered temperature was observed.

I am quite aware that fragmentary records of thermometric changes should not settle in one's mind any "principles" or "laws," but should stimulate us to a habitual use of the thermometer.

DIABETES MELLITUS IN AN INFANT.

By J. R. L.

X, aged five months, attracted the attention of his parents by his frequent and copious discharges of urine. He was restless to a degree not to be accounted for by the irritation and discomfort caused by the frequent wetting of his diapers.

The little patient had been fed with condensed milk for two months previously, in addition to the mother's milk, as the latter had not been deemed satisfactory in quality, and he was apparently thriving upon this diet.

His urine was presented to me for examination, a few drachms having been wrung from the diaper for this purpose. The symptoms all pointed to saccharine diabetes, notwithstanding the extreme rarity of this disease in infants, and Trommer's test revealed the presence of sugar in large quantity. That is, to three drachms of urine, thirty minims of sulphate of copper were added, and a drachm of liquor potassæ was added, the mixture being boiled in a test-tube and allowed to cool, the characteristic reddish-brown precipitate resulted. The specific gravity was not taken, as the amount of urine procured was so small.

This brings the case up to August 29th, on which day the child was weighed, and was found to weigh 11 lbs, 2 ounces.

The attending physician directed a change of diet from condensed milk, to fresh cow's milk, diluted with barley water, in addition to the mother's milk. The barley was not continued regularly, and after a short time given up entirely.

On the 2d of September the urine was again examined by Trommer's test revealing no signs of sugar. The child weighed on this day, 11 pounds and 6 ounces.

On the 9th day of September the urine was again tested as before, but no sugar was detected. To this date the child had increased to 12 pounds in weight.

No starchy food had been given him at any time, nor was any other diet permitted by the parents than that mentioned.

A prominent symptom in his case has been the small amount of sleep he gets. The little fellow is awake at 6 o'clock every morning and passes the entire day without sleep, going to sleep after much nursing generally at 10 o'clock at night. Narcotics of every kind have been studiously withheld, and indeed any artificial method of producing sleep.

Belladonna, was given, however, on the 29th day of August, at the suggestion of the physician to arrest the flow of urine, his diagnosis being that the glucosuria was due, not to ingestion of starchy food, or transformation of saccharine matters ingested, but

to another condition referable to the brain and nervous system, as not yet located. The dose of belladonna was as follows: On the 29th, $\frac{1}{2}$ drop of the tincture was given three times a day. The next day it was increased to a drop, and in two days thereafter it was increased to two drops. No dilatation of the pupils resulted. Diuresis was diminishing day by day, and continued to diminish after the belladonna was left off.

September 20th. The flow of urine for the past week has not been as large as formerly, and specimens for examination showed no reaction for sugar. The child is developing symmetrically, although he is not plump.

It is evident from this case alone, although there are other and sufficient proofs found in the literature of the subject, that the glycogenic function of the liver is subject to the influence of the nervous system, and in particular to the influence of a region of the cerebro-spinal centre which is already known as the vaso-motor centre, or at least a part of that region. (Foster). In the experiments made upon rabbits to produce artificial diabetes, the sugar comes from the glycogen of the liver, those animals yielding the greatest quantity of sugar who have been better fed, and whose liver is richer in glycogen.

The experiment referred to in the above paragraph is by irritation of the diabetic centre with a pointed instrument. It is well to bear in mind in this connection that irritation continued beyond the limit of a certain short time does not cause saccharine urine continuously, and that while mechanical injury of the thoracic ganglion will produce diabetes, no such effect is produced if the ganglion be carefully removed, or if its connection with the spinal cord or with the remainder of the thoracic chain be completely divided—(Foster's Physiology, p. 338.)

Artificial diabetes is produced in other ways. It is notably present as a symptom of curare poisoning; it is similarly present in poisoning from carbonic oxide; it is produced by injecting defibrinated blood into the mesenteric vein; it is produced as an effect of inhalation of puff-ball (*Lycoperdon*) smoke; by sufficient doses of morphia, and by nitrite of amyl. But whatever may be the cause of diabetes, the presence of sugar in the urine is due to an excess of it in the blood. It is extremely probable that the sources of the

excess may be various, and hence that several distinct varieties of diabetes may exist. (Foster.)

In reviewing the physiological investigations of the cause of diabetes by several writers, an English writer,* (Kingzett) says: "In spite of all the researches which have been made on these vexed questions, we are left without 'a plausible theory or a rational treatment of diabetes.'" (Thudichum.)

Organic diseases affecting the brain and spinal cord, external injuries to the brain, and certain influences on the sympathetic nervous system, are known often to precede diabetes, and perhaps to lead to it, and these observations supplemented by Bernard's famous, and Pavy's skilful experiments, would seem to indicate that diabetes, as we recognize it in its chief characteristic (the presence of abnormal quantities of sugar in the blood and urine), represents a factor of interference of the proper functions of the blood, as governed solely by the nervous system. It becomes therefore of great and necessitated importance, that research should be directed to the chemical and anatomical investigation of the brain and other nervous centres in cases of death from diabetes mellitus.

This is the earliest case of diabetes on record, perhaps, and the correctness of the test may be brought into question for this reason. I had no experience with other tests for sugar, and employed this one because I had formerly had satisfactory results. There is no doubt in my mind about the truthfulness of test, nor did a medical friend, the attendant of the patient, express any when the precipitate was shown him in the test tube.

TWO CASES OF VESICO-VAGINAL FISTULA—SUCCESSFUL

By F. PEYRE PORCHER, M. D., Charleston, S. C.

Professor in Medical College State of South Carolina, in charge of City Hospital, Charleston, S. C.

It is hardly necessary at present to record all of our cases of this accident—considered irremediable until the perseverance and the

*Animal Chemistry. 1878. Page 119.

genius of Sims reversed the usual verdict. In order to encourage others in such efforts a few brief notes will be furnished for your Journal, of two cases in which the results were favorable.

Case 1.—A colored woman, æt. 22, after confinement with her second child, came under our care with a simple laceration of the vesico-vaginal septum which was in a very favorable condition for an operation—being not more than an inch in length and situated quite near the external orifice. The edges were thoroughly freshened by the aid of the tenaculum, with the knife and scissors. Five silver wire sutures were inserted, quiet was enjoined and a complete cure was effected without further trouble.

Case 2.—This case was sent to the city hospital by Dr. Young, of Beaufort, December, 1878. She was 40 years of age, and was found to suffer from a constant escape of urine, caused by a rent between the vagina and bladder, $1\frac{1}{2}$ inches below the os uteri. The rent was curved and much more difficult to reach than in the first case. After a tedious operation of more than two hours duration, under chloroform, we succeeded in inserting five silver wire sutures. Upon examination after 12 days, when the sutures were removed, we found that her power of retention was almost complete, but that a small opening, two or three lines in length, still existed at the superior margin of the injury. At a subsequent operation this was closed and she was discharged cured.

In the last case the incomplete success of the first effort was caused by the difficulty of freshening the margins of the rent at a single point where there was a flexure of the vaginal walls ;—and neither the knife or scissors could act efficiently in denuding the mucous surfaces.

By changing the position of the woman in the second operation and having a better light, success was achieved. Sims' position and his speculum were employed in each case. The freshening was extensive, the needles were deeply inserted and the wires were carefully twisted.

In our limited experience and after several other unsuccessful efforts, we found a very short, slightly curved needle the best to be employed. This should be very large at the eye ; for thus we avoid the impediment caused by the difficulty of drawing the wire through when threaded and necessarily doubled upon themselves. A needle large at the but, or eye, makes way for the double wire ; and the

increased size of the opening made by it is in no way detrimental. To interpose a thread between the needle and the wire does not obviate the difficulty, as the wire must still be doubled, and the thread knotted.

In a case of extensive laceration of the perineum in a lady, a primipara, extending to the margin of the anus, an operation performed a half hour after the delivery, also with five silver sutures, proved completely successful. The plan of giving opium for ten days subsequently, we found objectionable on account of the difficulty of relieving the constipation and its ill effects upon the general system. The authorities, however, disagree upon this point.

Never having met with a single case of the above character before, strange to relate, there have been repeated instances of it in our hospital experience within the last 14 months among the colored patients.

Brain Volume and Brain Power.—The cranium of Descartes, says *Nature*, is often adduced as an exception to the general rule that a great mind requires a large brain. This statement seems to have rested on no exact measurement, and Dr. Le Bon resolved recently to test its accuracy. The result is that he finds the cubic capacity of Descartes' skull to be 1,700 centimetres, or 150 centimetres above the mean of the Parisian crania of the present time. At the same time Dr. Bordier has recently found the average capacity of the skulls of 36 guillotined murderers to be 1547.91 cubic centimetres, the largest reaching the enormous figure of 2.076 cubic centimeres.

It is a well-known fact that the size of the skull is no criterion of the value of its contents—those of Voltaire and Sir Isaac Newton to-wit: Nor is this to be wondered at, considering that the grey matter of the convolution is the seat of the intellect, and may be relatively deficient when the rest of the cerebrum is very large, and *vice versa*.—*Medical Press and Circular*.

SELECTED PAPERS.

ADDRESS IN SURGERY ON THE PREVENTION OF BLOOD- POISONING IN THE PRACTICE OF SURGERY.

By WM. S. SAVORY, M. B., F. R. C. S., F. R. S.,
Surgeon to and Lecturer on Surgery at St. Bartholomew's Hospital.

[*Concluded from page 191.*]

DRAINAGE-TUBES.

Then you see, as a rule, I do not employ drainage-tubes. Now, the employment in routine of drainage-tubes is so fashionable; they are just now, and for some time past have been, so highly in favor with surgeons in general, that I must ask your indulgence to bear with me while I venture to criticise their action. The purpose for which they are so habitually employed is undoubtedly clear and sound enough: to avoid the accumulation of fluids in wounds. These fluids, when they have become changed, are the most common and active source of mischief; and the less lodgment there is of these in a wound, the safer it is for the patient. But is there no means than this of providing for the escape of such fluids? You will perhaps gather, from what I have already said, that I, for one, believe there is, with ordinary care and skill. I think if the edges of a wound be not allowed to close before the deeper parts, and that by position the outlet be made sufficiently dependent, as a rule, all dangerous accumulations may be avoided. There are instances, however—exceptional, I think, after operation, but of more frequent occurrence in other cases—in which the insertion of something between the edges of a wound, or deeply into its substance, or throughout, may be very useful; and then for the most part I should employ a strip of thin guttapercha or some threads of carbolized catgut. I am most disposed to insert something of this sort where I expect the process of repair to be least direct, where the wound is large and irregular, and where the secretion is likely to be profuse and rapid. For example, after the removal of a breast in a very fat person, I should probably, at one or two parts, insert a narrow slip of guttapercha. But why not, then, do this in every case? Well, I think there is no material objection to it; and where other-

wise the progress of the wound cannot be watched in a trustworthy manner, it is better to adopt it. But I repeat that, as a rule, in the management of the simpler wounds, under the care of a surgeon who knows his business, there is no need of it. But, in my mind, there are positive objections of weight to the employment of drainage-tubes. At first sight, indeed, for their chief purpose they are very plausible instruments; but do they after all effectually discharge their duty? Does the greater portion of the fluid which forms in a wound where they are as a rule escape from them? From my own experience I should say, No; and I do not think I am at all singular in this observation. It has been more than once publicly pointed out (and I am sure the fact must have been often witnessed) that, when a drainage-tube has been withdrawn from a wound, a gush of fluid will follow it, and almost always some fluid, more or less, trickles after it—more than enough to provoke mischief if it be poisonous and can pass into the blood. In any case, the fluid which forms in a wound will flow downward to the deepest parts, and not upward, unless under pressure; and if from the position of a wound the aperture or apertures be at the dependent part, it will escape without tubes. If it be not, if there be a cavity within deeper than the outlet, what power, I should like to know, have drainage-tubes to draw it upward out of this? I think, then, if the position be not satisfactory, and the vent sufficiently free, they are needless; if the position be not satisfactory, they are useless. I say, therefore, as a rule, drainage-tubes are not effectual instruments for their chief purpose. But, furthermore, their presence is often directly and actively mischievous. They are foreign bodies in a wound. They act, of course, as foreign bodies in almost all circumstances do; they irritate; they provoke suppuration and the formation of fluids. Those who are accustomed to witness with complacency the escape of fluids along drainage-tubes hardly reflect that the drainage-tube has been a cause—perhaps the prime cause—of the fluid which flows out. When I see these tubes moved to and fro in a wound with the escape of pus, I am forcibly reminded of what I have often seen in former years, the action of setons. A drainage-tube is, in fact, a seton. Even when they are retained only for a short time, not long enough to induce further mischief, they are fatal to the chance of direct union of a wound. And is this,

the best of all results, to be now altogether given up as a visionary idea? Is union by the first intention to become a thing of the past? When I see, for example, a fatty tumor, small, or of moderate size, removed from under the skin, and then the edges of the wound stitched closely together over a drainage-tube lodged throughout its length, it seems to me simply idle to talk of principles of surgery. That such wounds do at length close in spite of this treatment, I know; but I think I know also that they will heal more quickly and kindly, directly without disturbance, if they are simply closed in the way I have already alluded to. It is surely very rare indeed for such wounds, if thus naturally treated and duly watched, to give rise to any anxiety or trouble. For my part, I do not think the risk, such as it is, at all lessened by insisting on a more circuitous process of repair.

I do not contend that drainage-tubes ought never to be employed. In exceptional cases, I believe the advantage outweighs the evil of their use, as, for example, in the after-treatment of empyema, where they are very useful in enabling us in a far more satisfactory manner to wash out the chest; and this, by the way, is an advantage often claimed for them, and with some force, in other instances. But I do not believe there can be usually much difficulty in washing out the interior of a wound without the necessity for that purpose of the permanent insertion of a drainage-tube.

And withal a word or two on behalf of that much abused application, a common bread-poultice. Its absolute and relative value in surgery can be determined only by experience; and, if the surgeons who condemn it have done so only after having given it a fair trial, then all I can say is that their experience on this subject is very different from mine. Having many years ago, like, I suppose, most surgeons at one time or another, been prejudiced against poultices (for, if not skillfully made, they are ugly and clumsy things), I have more than once cast them aside in favor of some other application; but again and again I have been driven back to their use by the plain fact, as it appears to me, that they fulfil certain conditions better than any of their rivals. I do not undertake to explain why they are thus excellent. I find certain qualities possessed by them in an eminent degree; but to what precise extent these are instrumental in the result I cannot say. A well-made

bread-poultice (which I make bold to suspect some of you have never seen) preserves ample moisture and equable warmth ; it is everywhere very soft, and adapts itself with singular uniformity to all irregularities of surface. In my experience this homely article far more frequently draws from the patient the word "comfort" than any other form of dressing. "Yes, that is comfortable," is a familiar expression after the application of a poultice. Poultices, of course, like all other appliances, are liable to abuse ; and I think that years ago they lost favor chiefly on account of the reckless way, as mere routine, in which they were employed, the faulty manner in which they were too often prepared, and the length of time during which they were allowed to remain unchanged. But I venture to repeat that, when applied in appropriate cases, they give, so far as my experience goes, more comfort to the patient and satisfaction to the surgeon than any other substance. Moreover, in certain cases of unhealthy wounds and of foul discharges, they become a most convenient vehicle for the use of charcoal and other agents ; and I for one, in spite of all our present proud array of antiseptics, should be sorry to lose altogether the help of the old-fashioned charcoal-poultice.

LISTER'S METHOD.

But now I must pass on to speak of that particular plan of practice which aims at unconditional security—the plan the purpose of which is to exclude all risk of blood-infection by the rigid exclusion of living germs ; notably of that particular method which has been introduced by Lister, and at present known everywhere as Lister's method. Now, the relative value of this method of treating wounds may be tried—should be tried, I think—first by the facts which have been ascertained in regard to it ; and, secondly, by the arguments which can be advanced for or against it.

First, then, with regard to actual facts. Are there any trustworthy statistics to show that the results hitherto obtained by Lister's plan are better than the best results obtained by any other method ? I think most will admit that this is a question of considerable weight. Well, I take, for instance, our hospital statistics, to which I have already referred, on the one hand, and I seek in vain for any parallel results on the other ; and, while this is so, I shall consider I am justified in the conviction that hitherto the best

results have been achieved by the simpler method. And I must add that one seeks in vain for statistics of any kind from sources from which I submit we are entitled to expect them. Why are such statistics withheld? Are they not worth the trouble of collection? And, if they have been collected, why are they not published? But let this pass. I say I know of no results from Lister's method like those I have given. Indeed, many of the statistics which have been so triumphantly presented to us make but a sorry figure by the side of the best, and they admit only of excuse by comparison with former results from the same place. And here I cannot help thinking that confusion and fallacy prevail on this matter; that, to answer this prime question, old and new results are constantly compared. Some hospitals, in which for several years the results have been much more unfavorable than those which can now be shown, have adopted this method, and the contrast has been striking; that is, the old and new statistics of the same institution have differed widely. And this shows that a great improvement has been wrought there by the adoption of Lister's method; but it by no means shows, as so many seem to accept that it does, that the best results of all can be obtained by this plan. For the fact is, conclusions drawn from comparisons of former and present practice at the same hospital are, in all probability, charged with this fallacy; that almost everywhere, from the attention which has now been for some time past directed to the subject, and from the greater care and caution exercised, the mortality after injury and operation has been considerably reduced. I might give you illustrations of what I mean in figures which have been published in triumphant demonstration of the superiority of this method. What do they actually show? Why, that while the adoption of Lister's plan has effected a vast improvement in the death-rate of a particular institution, the results obtained by it are still far below those which have been obtained by other methods. The contrast between the results of Lister's plan and the records of what I would fain hope may now be called former days is most marked where the previous mortality was highest; and it is easy to understand why the most enthusiastic reports in its favor come from those places where the sanitary conditions are worst. Beyond all question, I should say, in too many instances, it has proved far better than that which it has replaced;

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but to conclude from this that it is better, or in its results equal to every other plan at the present time adopted, is to set the simplest rules of logic at defiance, to foster error and confusion. No ; Lister's plan must be tested (it would be an insult to its author to propose less), not by contrast of former with present statistics, but by comparison of it with the best results which are now obtained otherwise.

But on this question of actual fact I must remark farther that, from observation of the method in cases in my own hands or under the care of my colleagues, I am impressed with the conviction that, as a rule, wounds heal more satisfactorily, more directly and quickly, under simpler plans. But an error of a like kind prevails here. An operation is performed in a sufficiently simple and straightforward case ; this mode of dressing is adopted ; all goes well ; the wound heals ; and the result is forthwith registered as demonstrative. The majority of wounds heal very well under various plans—heal for the most part, in spite of many hindrances, if these do not exceed certain limits ; and the majority of wounds heal under this particular plan. But I need hardly observe that the great question at issue is not at all touched by this kind of evidence.

I ought, however, to allude to a fact of which I, and probably many others, possess some evidence, that Lister's method has been both charged and credited with results that do not belong to it. A satirist might, indeed, have found ample scope for indulgence during the last two or three years in the treatment to which wounds have been subjected under the auspices of this plan. Very often, I should say, they have been converted into germ-traps and hot-beds for the cultivation of bacteria. But I repeat my conviction, that when the plan is actually carried out, as a rule, it delays the repair of wounds.

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To the next point. This particular plan of dressing wounds is founded on the accepted fact that the germs in the air are the sole cause of blood-infection, and its purpose is the prevention of this by their rigid exclusion or destruction. Is then, let it be asked first of all, this purpose by this means fulfilled ? Does blood-poisoning ever occur in this practice ? In point of fact, it does from time to time occur, and sometimes proves fatal. Every one is aware,

of course, of the answer which is given to this—that it is due to the mode of dressing being imperfectly carried out ; to some flaw in the management of the details. To which, again, it may be replied that, although the contrary does not, from the nature of the case, admit of proof or actual demonstration, such a catastrophe has undoubtedly occurred, and does still not unfrequently occur, in skillful and experienced hands, in the practice of excellent surgeons, enthusiasts in this method. And if this be so, it practically, you see, amounts to the same thing. If the plan be only ideally perfect, and liable, in spite of such care and dexterity, to fail in practice, it still misses its aim. Indeed, here is the critical question : If it be not absolutely, unconditionally protective, in what relation does it stand to other methods ? Why, so far as we have facts to guide us, as I have already stated, up to this time it has not made out its case. And then, are there no possible objections to it ? It shuts out the wound from view—to my mind, no trivial drawback. The wound cannot be examined without an elaborate process of change of dressings, always involving disturbance, if not risk. And although it may be said that confidence in the safety of this plan dispenses with such need, the question again arises whether it is reasonable to give such confidence as this. But it is further urged that one can tell by other signs what is going on in the part ; that local mischief is revealed by rise of temperature or of pulse. Yes, after a while, but not until the system has been disturbed by it. I think that when a wound or injury is under ready inspection, we may detect the tendency to go wrong earlier than this ; and upon the earliest detection of such tendency I think very much may turn. I do not believe that this objection can be explained away. Then this mode of dressing very often irritates ; as the rule, more or less, sooner or later. This local irritation, as the result of their repeated action, is, I should say, one of the most annoying objections to the use of antiseptics in general. They will do this ; and although for a great end, this may, within limits, be endured as a comparatively trivial circumstance, yet it not unfrequently proves to be of more serious moment by interfering with, and so delaying, the process of repair. Thus certainly their employment in this way is not favorable to the best results of surgery in the repair of wounds by the simplest and most direct process.

But while I think it must be conceded that this mode of treatment is not favorable to union by the first intention, it is claimed for it that, when wounds close by a more circuitous route, this process is shortened and simplified. I say to this—not proven; on the contrary, that the evidence is the other way. It has been affirmed that, under this plan, the constitutional disturbance, as indicated by the rise of temperature which usually attends the repair of considerable wounds, is very much reduced in degree. I have often heard the assertion made that there is usually very little or none. I have reason to believe that many very exaggerated notions prevail in regard to the amount of constitutional disturbance attending the repair of wounds when managed otherwise. As a rule, there is more or less constitutional disturbance shown by rise of temperature during the repair of large wounds under any plan; but the evidence at present before us by no means shows that with this method it is less than any other.

Again, much has been made in this matter of the formation of pus. It was, I believe, once contended that the formation of pus is prevented by this means; and now, that the process of suppuration is very materially reduced; that it is serum or a serous fluid, rather than pus, wounds so treated pour out. Well; but when wounds have to heal by granulation, is laudable pus a cause or sign of mischief? I am not speaking of profuse and long-continued suppuration, which is really out of the question here, but of such suppuration as usually occurs during the repair of a wound. For my part, I confess I am neither ashamed nor afraid to see well-formed pus covering the surface of granulations; nay, I accept it as a very favorable sign. I am accustomed to watch it carefully, for I think, in the change of character of this secretion, we have often the first signal for good or evil, and, as a rule, the condition is satisfactory under a layer of laudable pus. I say, then, even accepting the statement, it remains to be shown that a serous speaks of a better state of things than a purulent discharge.

Then, for me at least, and for the reasons I have given, the constant and prolonged employment of drainage-tubes is a serious objection. I am convinced, I repeat, that they too often prove sources of local and general irritation. Thus I have seen a large chronic abscess opened and dressed carefully with the rigid precau-

tion of Lister's method. I have seen the patient day after day but little disturbed, with a temperature one or perhaps two degrees above the normal; and then, at the end of a week, or of nine or ten days, I have seen all the dressing hitherto applied suddenly removed, the drainage-tube withdrawn, and a common bread-poultice applied to the now fully exposed surface. The result has been that the temperature has quickly fallen to the normal point; and my belief is that, in more than one instance, the reduction of temperature was mainly due to the removal of the tube, which, as a foreign body in the wound, was a source of irritation.

I say, then, I cannot admit the claims of Lister's method; because, although undoubtedly very good results are to be obtained by this practice—better ones, no doubt, than most of those which were reached in former years, or are still in many places—yet that it has not shown results superior or equal to those which have been otherwise achieved; that it has, moreover, grave drawbacks from which simpler plans are free; that if it fail, it is worse than useless by increasing the risk; and, therefore, that it has not established any title to supercede all other methods in the practice of surgery.

The principle of Lister's practice is an easily intelligible, and therefore very attractive, one to the public—I mean the more educated portion of it, even to men of scientific attainments, who have little or no knowledge of clinical surgery; for the one fact can be seen so plainly, while all other questions which are forced upon the attention of the surgeon are shut out from them.

But the principle on which it rests is a sound one; the logical outcome of established facts. Granted most freely and fully so far as in this direction it goes. But is every other plan of treatment without principle and opposed by logic? Let me recall your attention to some words which appear to me to be about the wisest which have been spoken on the subject. Last year, in his address, Dr. Roberts said: "We should probably differ less about the antiseptic treatment if we took a broader view of its principles. We are apt to confound the principle of the treatment with Lister's method of carrying it out. The essence of the principle, it appears to me, is not exactly to protect the wound from the septic organisms, but *to defend the patient against the septic poison*. Defined in this way, I believe that every successful method of treating wounds will be

found to conform to the antiseptic principle. Take, for example, the other method of treating wounds which is sometimes compared in its results with Lister's method. What is this treatment but another way (only less ideally perfect than Lister's) of defending the patient against the septic poison? Because, if the surgeon succeed in providing such free exit for the discharges that there is no lodgment of them in the wound, either they pass out of it before there is time for the production of the septic poison, or, if any be produced, it escapes so quickly that there is not enough absorbed to provoke an appreciable toxic effect." Which plan, after all, takes most cognizance of all the facts before us? While it is true that the air contains germs which can so change animal fluids that if then they pass into the blood they may poison it; it is also true not only that fluids which have never been in direct contact with the atmosphere may be pent up far from the surface in various parts of the body without infecting the blood, but also that open wounds may be and are continually freely exposed to the air, yet remaining all the while healthy; the process of repair is carried on without let or hindrance, or any disturbance of the health; that fluids which bathe the surface of wounds may be saturated with the air and all it contains, and still escape before they have undergone any mischievous change; that, lastly, and not least, fluids may be changed to putridity on the surface, as in the interior, and yet not give rise to infection of the blood. In the discussion of this great question, it is too often implied, though not explicitly expressed, that if the unimpeded atmosphere be allowed to come into contact with wounds it produces mischief. And if it be said that, assuming the risk to be ever so small, why not adopt means which avoid it altogether? the answer is that it has not yet been shown that any such means exist. Blood-poisoning from wounds, though happily now in the best places extremely rare, still under whatever mode of practice followed, does occasionally occur; and so it seems to me most reasonable to follow that practice which is shown to be, on the whole, safest by its results, it being, moreover, the simplest and least objectionable in other ways. In short, it is clear enough that Lister's plan, while it deals with one cause only of danger, provides by no means absolute security against this. When seriously tested by a bad atmosphere, it has hitherto obviously left a wide margin of

mischief. Compare, for example, German and other statistics with our own. And when hygienic conditions are as favorable as possible, the risk from the single source of which this method takes heed is so far reduced that the good it can affect, beyond other measures in this direction, is not equivalent to the harm it does in other ways; as, for example, by irritating the wound, and so interfering with the process of repair.

Observe, if you please, that I am not saying that Lister's practice is to be in every case, and under all conditions, eschewed. I can very well imagine—nay, I know of circumstances where I have no doubt it would be far safer to employ it than to run the great risk of exposure. It is preferable to a pestilential atmosphere. But I submit that, while in such places and with such arrangements, if operations must be performed or wounds treated, this, or something like it, should be adopted, it would be far better, wiser, more humane, to stop the practice of surgery altogether until these places had been made clean and reasonably pure. I refer again to the records from Germany. When we observe the rate of mortality before and after the adoption of Lister's method we are tempted to ask, What would have been the result if all possible care and forethought had been directed to the improvement of the sanitary state of the hospitals? Why should they have been, why are they still, so far behind others in this respect? You will remember the story of the Norfolk and Norwich Hospital as Mr. Cadge told it; and you are not likely to forget the ghastly sketch Lister drew after his visit to some of the continental hospitals only four years since. It is the evil of this, or of any special or peculiar plan of dressing, that it tends to limit our view, and, by fixing the attention on a number of details, each of which is made of prime importance, diverts the mind from the observance and consideration of far larger questions. Yet, notwithstanding the veil which has for a time been drawn before the eyes, there are already signs that the field of vision is extending. It is now many months ago that I read of a distinguished German professor using, as he tells us, extraordinary precautions: "That on an operation morning he gets up early, and washes himself all over: that his assistants wash themselves; and that the patient is also washed"; and although a famous Scotch surgeon, who relates the story, adds, "Surely all

these washings are unnecessary," let us hope that, in interests besides those of surgery, the expectation at least of an operation may become of daily occurrence. We cannot, indeed, render the air absolutely or "optically" pure for the practice of surgery; but I think under fairly favorable conditions, and with the means at our command, operations may be performed and wounds treated in an atmosphere not so impure but that, on the whole, the least risk is run by the practice I have ventured to advocate.

One word farther. I have spoken without reserve—as I take it I was bound to do if I spoke at all—of this now famous plan of treatment. By this I think I have shown the truest respect for the author of it. If I esteemed the practice of Professor Lister less, it would have been easy to offer him the homage of flattery, to congratulate him on his renown. It appears to me that I have evinced more regard for his authority, and placed higher estimate on his work, by study to the best of my ability the method he has introduced; by not expressing an opinion adverse to it in public, or from a position of responsibility such as this, until my conviction had grown clear and strong; and then I think I best mark my appreciation of his purpose by thus speaking out freely and fully. And though I am thus—not on principle, but in practice—opposed to him and many others whose ability and knowledge I admire and respect, I know very well that on a greater issue—the advance of surgery—we are heartily together; and, with unfeigned diffidence of my own judgment, I have yet farther consolation in the assurance that if I be in error, these words of mine, even from this place, will prove no serious obstacle to the progress of truth.

Whatever defects may be charged against surgeons in the practice of their art, indisposition to accept new ideas or lack of zeal in testing new proposals, cannot be reckoned among the number. And if in some the desire may appear to be excessive, it must be remembered that this is the natural outcome of discontent at the inadequacy of the resources they can at present command, and that such dissatisfaction is the parent of progress and improvement. A curious list, indeed, might be drawn up of the numerous novelties which from time to time have been introduced into surgery, and which, after attracting much attention, have been tried and found wanting. And if it so happen that this particular mode of dressing

wounds should share their fate, still, like many others, it will have served some useful purpose ; for it will, at all events, have helped largely to fix the attention of surgeons on a great source of danger from wounds. Nor is it perhaps likely to be superseded altogether by any plan of management which does not include among its chief object the reduction of this risk to the utmost extent possible. Henceforth, no doubt, as the result of the attention and discussion which have been given to this matter, the words cleanliness and purity will have a wider, deeper, fuller significance for the surgeon. Hospitals and all institutions where the practice of surgery is carried on will soon, let us trust, be no longer open to the shame of even a suspicion of their states. They must not only be made free from all doubt that in their wards mischief may be fostered ; but they must be offered year by year in their records the surest guarantee that they are the safest place for patients. At present, in the worst, antiseptics are the only means employed for counteracting this gigantic evil ; and its proportions may, perhaps, in some degree, be measured by the lavish manner in which antiseptics are consumed. But, after all, they fulfil their purpose but imperfectly, and are themselves not free from evil. Is it rash to affirm that the future practice of surgery will be most successful when it is carried on, not where antiseptics are more largely used, but under conditions least in need of antiseptics ? Nay, is not this so now ?

The study of blood-poisoning : the attention which of late has been directed from all sides on this great subject must prove at advantage to surgery in another way. For some time past, and to the prejudice of our profession, a wall of partition between medicine and natural science has been gradually built up. Physicians and surgeons finding enough, and more than enough, to do in their own immediate work, have of late years passed by the study of natural science, even that branch of it which most immediately concerns them—physiology or biology—with hardly a glance. And the loss from this, which was formerly allowed to be considerable, comes now to be actually questioned in some quarters as a fact. Nay, those who have never made any effort to find opportunity for this pursuit are wont to assert boldly the uselessness of it, and speak of it plainly as waste of time. The study of blood-poisoning in its present form has effected for us in our profession this great

good: it has led us back to paths which have been too long untrodden, and forced upon many of us, in a most attractive way, some little knowledge at least of the first principles and leading facts of biology. It has, at all events, in great measure imposed silence on those who have been accustomed to talk loudly of what they call practical work, and to meet every inquiry not likely to pay with the vulgar version of *Cui bono?* And while, on the one hand, we have been thus forcibly reminded that surgery can never, without degradation, be divorced from physiology; on the other, this fertile field has proved to be common ground on which natural philosophers and surgeons may with mutual advantage, and in furtherance of the same immediate result, work together. It is true enough that no progress of any kind can be made in natural science without advantages in which medicine and surgery must always largely share; but still it is something just now to have a subject like the present one, in which the truth is made so plain upon the tables that he may run that readeth.

And it may be remarked that surgery, while it works in this direction, fulfils its highest purpose, for it aims at the prevention of disease. Heretofore our art has not escaped the reproach that, whatever it may have effected in the way of relief or cure, it has done little or nothing in the work of prevention. But what shall be said of the progress which has been made in averting the occurrence of blood-poisoning; in preventing the most fatal of all affections, which waits alike upon accidental wounds and the surgeon's own work? In accomplishing so much, it has not only thrown light over one of the darkest regions of pathology, but also, by reflection, on the laws which govern health and life.—*Medical Times and Gazette*.

MUSHROOM OR TOAD-STOOL POISONING.*

The terms fungus, mushroom or toadstool poison are synonymously used by mycologists. The three words may be so understood in this article. Mushrooms may poison the human system in three ways, as follows :—

*Proof sheets kindly furnished by the author, Julius A. Palmer, Jr., of Boston.

1. They may simply disagree with the organs of digestion, as in the case of the hard; tough varieties of fungi, or in the case of the common mushroom, which in a partly decomposed state, often generates hydrogen gas in such quantity as to produce nausea and vomiting.

2. They may be slimy, acrid or nauseous. Many mild *Boleti* are too slimy for food. The *Russulæ* have very acrid varieties. *Polyporus Squamosus* and others are bitter, and taste of leaves and grass.

3. They may contain a subtle alkaloid, without taste, smell or other indication of its presence, as in the group known as the *Amanitas*.

The symptoms of poisoning by indigestion are soon manifest, and need occasion no alarm. Relief comes in the natural channels; it may be hastened by emetics, by warm water, or by plunging the finger into the throat.

The effects of poisoning by some acrid or nauseous element are immediate and present nothing to discourage physician or patient. Expulsion through the mouth or alvine canal, followed by emollients of sweet oil, slippery elm or gum arabic, will soon allay the irritation.

It is probable that most of the fatal cases of poisoning by toad stools are due to amanitine. Physicians have in all ages confessed their utter inability to find an antidote for this poison. An eminent chemist stated to me that he should regret to receive for test purposes the stomach of any one so poisoned, as he should not know where to turn for a reagent. This fungus being eaten has no burning or unusual taste. It passes harmlessly through the stomach, mixed with the other food. From eight to fifteen hours after ingestion, dizziness, nausea, and purging begin, followed by fainting, delirium and death.

The foregoing classification is important to medical men. Persons eating noxious mushrooms are, by that very fact, unable to identify the species that caused their sickness. Amateurs will often select six toadstools and class them as of one kind. Let the physician inquire carefully how much time has passed between the suspected meal and the attack. The shorter this elapsed time, the more hope for success by appropriate treatment. Poisoning by amanitine

being the most common and most fatal, to this part of our subject shall the rest of this article be devoted. We shall cite three cases.

Two persons at Santry, near Corbeil, France, made a meal from the *Amanita Bulbosa*, under which head the French include our *Amanita vernus*, *phalloides* and *mappa*, as but slight variations divide these three members of the group.

Beyond vertigo in one case, no ill effects were felt until three and eight, respectively, of the morning following. One patient even slept calmly after the vertigo passed away. Once attacked, however, the usual symptoms followed, and inside of three days both were dead. Space forbids an enumeration of their symptoms. Briefly, from attack to post-mortem appearances, these were little different from those of Cholera Asiaticum.

The physician understood the case, yet after the consecutive use of coffee, tea, antimony, ether, whites of eggs, anti-vomitives, laudanum, milk, leeches, ice and emollient fomentations, he says—

“None of the remedies were followed by the least sign of amelioration.” He afterward excepts (as simple alleviatives) ice internally, and emollients applied externally to the abdomen.

A report of a more recent case, kindly furnished me by the consulting physician, is the second now before me. Any medical man would be struck by their perfect identity. Patients, attendants, and physicians seem to have assumed parallel parts in an equally sad drama. Four persons were poisoned in this case, of which three died. The survivor's letter to me merits publication, and has been admired for its simplicity and clearness by many medical men. The fatal meal was eaten at four o'clock in the afternoon of Monday, October 2d, 1876. About midnight all were attacked who had partaken of it. The first death took place on Thursday following, at ten A. M. The second of the three on the next day, or Friday morning. The one who recovered experienced nothing but a severe diarrhœa. Her exemption and the latest of the three deaths will be the subject of future paragraphs.

The third and still more recent case is identical with the others. Details are, however, not at my command. Two of the patient's were children, and died in thirty-six hours. One, the father, was subject to severe delirium, jumping from a second-story window. The attack came on about eight hours after ingestion. All these

cases are alike in that up to the actual attack no person felt the worse for the fatal meal.

Mushrooms make the same use for the atmosphere as men ; even their exhalations are, accordingly, air vitiated with their properties.

About four years ago a number of poisonous mushrooms (not amanitas, but of a totally different family) were sent me with edible fungus. The two varieties had lain twelve hours in the same box. The noxious ones were rejected, the esculent washed and eaten. In a moment my appetite was gone. Violent perspiration, vertigo and trembling were the next symptoms ; then chills, nausea, purging and tonismus, all within thirty minutes. Now the substance could not have reached the bowels. The virus absorbed from the noxious fungus, permeated the whole system through eating the harmless ones ; unmixed with other food, it acted upon the muscles, through an empty stomach. Once spent, the attack passed off, and the substance from which the system had absorbed all the venom, was digested without exciting undue motion when it reached the bowels. Probably this result was also due to the use of olive oil as a remedy.

Again, absorption may take place through the pores of the skin. An amanita held in the closed hand will produce all the symptoms of poisoning, even to convulsions. Once, while perspiring from a long walk, I undertook to bring in a large bunch of these mushrooms for an artist. Seated by them in a close car, holding them in my warm hand, although protected by a paper wrapper, a fearful nausea came over me. The toadstool was not at first suspected, yet I had all the symptoms of a sea-sick person, and was only relieved by a wide distance between myself and the exciting cause.

While writing this article, a friend sent me two very elegant specimens of the amanita tribe. They were in a confined box. On opening it, I smelt of them a few times and allowed the box to lie near my desk while I wrote to a medical gentleman anxious to procure such for chemical experiment. Having sent them away the matter was dismissed from my mind until three hours after, when an attack of vomiting and oppression at the stomach enforced it upon my attention. The whites of my eyes became livid, and even to noon the day following the leaden color of my face was noticed by more than one person.

One more example and we will draw the corollary, and speak of remedial measures.

This time I chewed a piece of an amanita the size of a half dime, ejecting the substance but swallowing a little of the saliva. Constriction of the muscles of the throat was the first symptom. One attack of vertigo followed, but it was momentary. Disgust with customary employment, like that felt in sea-sickness was the most constant sign of the presence of the poison. Seventeen hours after swallowing it, I for the first time, could have vomited, and felt a slight straining and tenesmus, after which the effects passed quickly away.

From these personal experiments the following conclusions may be drawn : The poisonous principle of fungus being absorbed by a harmless element, if the latter be eaten, the venom acts more quickly and surely. Additional proof of this assertion exists in the fact that if the amanita be cut in sections and laid in vinegar, the fungus may then be eaten without danger to life, but on a very small dose of the vinegar, death will follow more speedily than if the whole toadstool be eaten. One stage in the process of absorption has been completed. This last conclusion admits of one exception. In the second case of poisoning cited herein, a single member of the family escaped death. She put vinegar on the toadstool in her plate before mastication. The alkaloid was neutralized thereby, or at least fused with acid strong enough to occasion no harm excepting unusual action of the bowels.

But, after ingestion, any administration of remedies calculated to precipitate the alkaloid, or to amalgamate it with the gastric juices, only helps absorption and lessens the patient's chance of expelling it before his digestion has extracted all its venom. A dog poisoned with amanitine received vinegar as an antidote ; his symptoms were all fearfully aggravated and great distress ensued. The presence of the assimilating agent simply aided the system in absorbing the virus. Sweet oil was given, when he vomited the fungus mixed with whitish mucus, and, on a milk diet, recovered.

Again, the inflammation, cramps, colic and straining at stool, do not cause the death of the patient, but are simply secondary effects of the poison absorbed. A few drops of amanitine injected up the back of a frog will produce death in one hour, without leaving on the body the slightest indication of inflammation. My most violent personal experience with the poison was when I was inoculated

through the mucous membrane by the sense of smell alone. The oppression in the stomach and abdomen was very severe, yet not a piece of poisonous fungus lay in the intestines.

The poisoning by chewing a small piece shows how little may endanger human life, and further, that the operation through the digestive functions is so slow that any members of the amanita family should be tested with great care as esculents.

In speaking of the remedial measures it will be well to bear in mind that these remarks apply to the amanitas alone, the presence of which can be inferred by the physician, wherever the attack commences at eight hours or over after the mushrooms. Whatever the remedies used, they must be introduced into the system as *directly* as the physician's judgment may deem possible. The writer of this article is not a medical man, and he does not propose to dictate to those who have given drugs and their effects on the human frame and its wonderful network, their attention for many years.

Yet subcutaneous injections and enemata possess the most important qualifications for reaching poison by fungi. Two drugs may be suggested for hypodermic use; tobacco and atropine or belladonna.

The throbbing heart of a frog is silenced by a drop of muscarine; or Schmiedeberg's alkaloid from *Amanita Muscarius*. Action is restored by a drop of atropine. Animals who have been hypodermically injected with atropine are unharmed by a fatal dose of muscarine. Contrariwise, patients have eaten amanitas, and by means of emetics and purgatives every trace of the fungus has been removed. Stimulants and alleviatives have apparently built up the system; sixty hours after, præcordial distress, faintness, coldness of extremities and other symptoms have been manifest, proving that in rejecting the fungus the system had not discharged itself of the poison. By most mycologists, either emetics or cathartics are considered worse than useless in poisoning caused by amanitine. Injections of warm water, soap and water, perhaps mixed with oil of sweet almonds or oil of olives, on the contrary, relieve the tenesmus, and by producing motion in the lower intestines much assist the bowels in expelling the foreign substance in a natural manner.

Then the physician should use subcutaneous injections of atropine (which seems to control this most powerful of known poisons),

or such other drugs as the symptoms may indicate, or his discretion dictates.

Perhaps this article would be incomplete without a description of the leading traits of the amanita family of mushrooms. These are, first, a volva or wrapper, which encloses the young plant before it leaves the soil, and may be found at the base of the stem of the full-grown mushroom. The remains of this volva also appear on the cap or pileus, in the form of irregularly scattered and sub-persistent warts or scurf, easily rubbed off, leaving the skin intact. The gills underneath the cap are pure white, and if the mushroom is laid on blue paper a few hours, the white deposit of the spores will resemble delicate shading with an artist's pencil. The color of the mushrooms is very variable, red, orange, green, yellow and white, with intermediate shades. The most common to this latitude is pure white or yellowish white cap and otherwise pure white. There are several kinds which may be safely eaten, but it is far better for an amateur to avoid the whole group. The dangerous varieties are extremely common.

We make daily use on our table of a great many varieties of mushrooms for food, gathering them fresh in summer and drying the superfluous stock for winter use. Personal experiments prove that the constant use develops an extreme sensitiveness to the toxicological properties of fungi; the system does not become hardened to their noxious elements. Contrariwise, it repels them and is repelled by them in quantities which a stranger to such diet would not notice.

Because a mushroom is eaten with impunity by the lower animals, it by no means follows that it is fit for the food of man. In the case of October, 1876, mentioned herein, the amanitas were fed to the pigs, who ate the whole stew without ill effects. Swine are also proof against the noxious properties of *amanita muscarius*, and rabbits will swallow unharmed some other non-esculent fungi. On the other hand, *agaricus melleus* is said to have killed a dog in twelve hours, and a cat to have died in terrible convulsions from a meal of *marasmius oreades*. I have seen a dog very sick from biting off the tops of the *coprinus comatus*; all these are edible mushrooms.—*Moniteur Scientifique, Du Quesneville, Paris, Rue de Buce, January 12th, 1879.*

ACTION OF CERTAIN DIAPHORETICS.

Modern physiological research has demonstrated the dependence of perspiration upon the nervous system, not merely as a normal phenomenon, but also as the result of the administration of diaphoretic medicines. The researches of Marmié and Nawrocki have shown that the centre which regulates the occurrence of sweating is probably seated in the medulla oblongata, and this observation is confirmed by a new series of experiments by the last named investigator. These experiments, an outline of which has been published in the *Centralblatt für die Med. Wissenschaften*, are of interest also as a fresh demonstration of the fact that some medicinal agents which promote perspiration act through this medullary centre. The drugs employed in these observations were acetate of ammonia, sulphate of physostigmin, nicotin, and picrotoxin. Marmié showed that the injection of camphor dissolved in oil, or a solution of acetate of ammonia, caused perspiration upon every paw of the animals experimented on, but that if one sciatic nerve was divided the corresponding paw remained dry. Section of the lower part of the spinal cord also arrested the effect. Nawrocki finds that the perspiration is also arrested by section of the cord below the medulla oblongata, the animal being, of course, under artificial respiration. A similar result was obtained with sulphate of physostigmin. The spinal cord below the medulla and the left sciatic nerve of a curarised animal were divided; the feet were dry. Four milligrammes of physostigmin were then injected without effect. The left sciatic was then stimulated by faradisation, and after a minute the left foot was covered with abundant drops of sweat. On the other hand, the sciatic only was divided in another animal; the same quantity of physostigmin caused abundant sweating in the other three paws, but that of the leg in which the sciatic had been divided remained dry.

Luchsinger proved that nicotin exerts an action on the centres for perspiration, and found that in rare cases it was capable of exciting a slight secretion of sweat after the nerves of the limb had been divided. Nawrocki found that after division of the cord below the medulla, a slight secretion followed the severe convulsions which the injection of one drop of nicotin immediately produced, but subsequent convulsive attacks caused no perspiration. In another

animal one sciatic nerve was divided, the spinal cord being left intact. The injection of nicotin caused profuse secretion on the other three paws, but none in that supplied by the divided sciatic. The injection of picrotoxin, which had been found by Luchsinger to be a powerful diaphoretic, yielded similar results. After division of the spinal cord at the eighth dorsal vertebra, picrotoxin (.04 grm.) caused sweating on the fore-paws, none on the hind-paws. In another similar experiment, faradisation of one sciatic caused sweat to appear on the corresponding paw, although the other remained dry, in spite of severe convulsion, during which the fore-paws were covered with sweat. Division of the cord at the level of either of the third or the first cervical vertebra arrested all secretion of sweat after the injection of picrotoxin, although abundant salivary and lachrymal secretion occurred. On the other hand, in a similar experiment to the last, although after division of the cord picrotoxin had no effect, pilocarpin subsequently injected caused in four minutes abundant secretion from all the limbs.—*London Lancet.*

FATTY EMBOLUS.

Fatty embolus was observed for the first time by Zenker in 1862; since then similar cases have come frequently under notice. For some time past, Flournoy has carefully examined all the bodies which were brought to the pathological institution of Strasburg, and has found that fatty embolus occurs in 10 per cent. of the cases. The causes of this affection may be briefly summed up as follows: crushing of fleshy parts of the body which contain much adipose tissue, lesions of the marrow of the bones, or inflammatory changes taking in the latter (not acute osteo-myelitis). In those cases which do not end fatally, the *vis à tergo* of the circulation carries the thrombi from the lungs into the region of the aorta, where it seems that secondary thrombi may remain for an indefinite time without causing any disturbance, and are finally dissolved in the alkaline blood. The symptoms of fatty embolism may be described as follows: the patient begins suddenly to feel weak; respiration about

60; pulse small, very frequent; temperature high; crepitation, first in the bronchi, then in the trachea; dyspnœa frequently becomes orthopnœa; the lips are covered with a reddish froth; the face is first pale, and later on, becomes cyanotic; the extremities are cool, the pupils contracted; the patient becomes somnolent, then comatose, and dies finally; in some cases vomiting and convulsions preceded death. This has often been observed after severe injuries of the bones. The treatment is the same as in œdema pulmonum. In 13 per cent. of the 140 cases which have been mentioned in pathological literature, death has been caused by fatty embolus—*London Medical Record*.

DO NOT BE IN A HURRY TO PERFORM ŒSOPHAGOTOMY.

We are indebted to the *Boston Med. and Surg. Journal* for a case by Isaac F. Galloupe, of Lynn, Mass., for another lesson in the watch and wait theory.


“I was called up at two o’clock in the morning by a middle-aged lady, who had come four miles to consult me. She stated that she had a full set of false upper teeth; that she had them in her mouth when she retired the night before; that she awoke at one o’clock, choking; that she felt the teeth go down into the stomach, and that she had suffered from severe pain in the stomach since. I doubted whether she could swallow so large an object so easily, but she stated that when she went to bed the teeth were certainly in her mouth; that the bedding had been carefully examined and the whole house ransacked to find the teeth, but they were nowhere to be found; and that she was *sure* she had swallowed them. I passed a probang into the stomach, but felt nothing. I then gave her a dose of sulphate of zinc, which operated in two minutes, but no sign of the teeth. I then advised her to go home and fill the stomach with soft food, and await events. I saw nothing more of her for a month, when I called on her to ascertain what followed. She looked somewhat mortified when she told me that after her return home that night another search was made, when the teeth were found *under the bed*.”

EDITORIAL.

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THE ANÆSTHESIA QUESTION REÖPENED.

It is easy enough to avoid the entire question of the discovery of anæsthesia, leaving it among the matters which time must settle, or to pronounce it a muddle from which no positive facts can be learned.

Dr. Marion Sims who has long been known to the profession as an original worker, has come forward to claim for Dr. Crawford W. Long, of Georgia, the honor of the discovery of anæsthesia, a claim entirely too serious to be made without certain data, but nevertheless one that should be vigorously pushed if the evidence is sufficient. We assume that this is a question about which sectional pride has no concern, more particularly are we thus warned as we recollect how entirely sectional the preference for one or the other anæsthetic has become in the last fifteen years. The only question that should concern us is what amount of truth is there in Dr. Sim's statement of the claims of Dr. Long.

It seems to us from a careful examination of Dr. Long's first publication in 1849, that he did not carry his experiment in etherization beyond the first or exhilarating stage of anæsthesia.

Venable the subject of Dr. Long's two first experiments held the towel himself and was conscious of what was going on. He says : "I commenced inhaling the ether before the operation was commenced and continued it until the operation was over." This certainly was an incomplete anæsthesia. How could he know what was going on if he was unconscious ?

Again, speaking of the second experiment, Venable says : "In this operation I did not feel the least pain *until the last cut was made*, when I felt a little pain." Evidently, Venable was only partially unconscious and was able to keep his eye on the whole affair. Dr. Long's *etherization* was simply exhilaration and not the complete anæsthesia we are familiar with.

We note another curious admission : "The result of my second experiment in etherization was such as led me to believe that the anæsthetic state was of such short duration that ether would only be applicable in cases in which its effects could be kept up by *constant inhalation* during the time of the performance of the operation. Under this impression, up to January, 1847, I had not used ether in but one case in extracting teeth and thus deprived myself of experimenting in the only class of cases which are of frequent occurrence in a country practice."

The result of the above admission is fatal to Dr. Long's claim.

1st. Dr. Long's etherization was "an anæsthetic state of short duration" produced by the patient himself (Dr. Long nowhere says that *he administered* the ether.) He implies that a "constant inhalation" was impossible.

2d. He did not consider his anæsthetic state of sufficient duration to apply it to "the only class of cases" which came to his hand, viz : tooth pulling. If he could not pull teeth of his patients while they were in his "anæsthetic state" surely it was worth little.

Finally none of his experiments bore fruit and the world did not get anæsthesia from them.

This is no new phenomenon in the history of discoveries. Many of the most prominent discoveries in daily use, were the outgrowth of the strong and earnest desires of generations of thinkers to bring about the result. To produce a state of unconsciousness whereby the medical man could perform painful manipulations on the sick under his care, has a history extending through many generations.

of the human race, and our readers will recollect how carefully SIR JAMES Y. SIMPSON brought together the items, and with what scholarly skill he worked out the narrative.

One illustrious example of the apparent forecast of great discoveries, we will narrate, as we believe it will be interesting to some of our readers.

Twenty-two years before JENNER performed his experiments in cow-pox inoculation, Benjamin Jesty made experiments exactly similar, as seem to have been abundantly verified. A full account of this narrative will be seen in the London *Lancet*, Oct. 25th, 1862,* but it is a parallel of what we have under consideration in the case of the claims by Dr. Long's friends for him, except that in the case of Jesty's friends we have more reliable proof.

We have in our possession a photograph of the tomb-stone of Jesty† the inscription from which reads as follows :

(Sacred)
To the Memory
—of—

Benj'm. Jesty (of Downshay,)
who departed this Life
April 16th, 1816
Aged 79 years.

He was born at Yetminster in this
County and was an upright honest
Man particular noted for having
been the first Person (Known) that
introduced the Cow-Pox
by Inoculation. and who from
his great strength of mind made the
Experiment from the cow on
His Wife and two Sons in the year 177(4).

This inscription was made eighteen years after Jenner's discovery was given to the world, taking it for granted that it was erected at the time of Jesty's burial.

*Trousseau's Clin. Med., Vol. II, p. 103.

†For this we are indebted to Dr. Henry A. Martin, of Boston, and also for many other valuable historical mementoes of the history of vaccination.

But admitting the entire veracity of this history, it has never dimmed the glory of Jenner's discovery; for as Tronseau justly remarks in weighing this historical item of Jesty's priority: "Jenner
" had the incontestable merit of having contended against all the
" obstacles put in the way of the practice of vaccination, and of
" having communicated to contemporary physicians the belief which
" he had deduced from the observation, and rigorous interpretation
" of facts."

Dr. Barron* also expresses the same idea in considering the claims of Jesty as follows: "Granting that these really were what they
" purport to be, they do not in the slightest degree affect Dr.
" Jenner's claims. They did not advance the knowledge or the
" practice of vaccination beyond what casual observation and popular rumor had rendered common in many districts * * * they
" were quite unknown to Dr. Jenner, and had it not been for
" his publication they never would have been drawn forth from their
" obscurity."

We are strongly of the conviction, that if no subsequent experiments had been made, that the step Dr. Long made towards the discovery of anæsthesia would have been as barren as were Benjamin Jesty's towards the establishment of vaccination. W.

NORTH CAROLINA BOARD OF HEALTH.

At our last report forty-one counties had organized auxiliary Boards of Health, and that number has at this date received still further increase. The obstacle to a more rapid formation of these Boards is two-fold.

Many counties in the State are remote from lines of travel, and act slowly upon all new matters. Also, in about one-fifth of the counties there are no legalized practitioners, at least none who will undertake the work for the pay allowed. An investigation into these various causes has revealed a state of affairs in some counties that calls for radical reform.

*Barron's Life of Jenner, Vol. I, page 500.

It will be remembered that the basis of the salary of the County Superintendents, is the sum total of the money spent for medical services to the sick in the poor-house, work-house, and jail, and for medico-legal post-mortem examinations.

This sum in some counties is shamefully small, and principally for the reason that the sick-poor are farmed out to the lowest bidder, no regard whatever being paid to the qualification of the physician, whether he is lawfully entitled to practice medicine in the State or not. County Boards have practiced cruelty, under the mistaken notion of saving money for the people. The sick-poor of many counties were deliberately, on the score of economy, turned over to the cheapest doctor, who too often was an unlicensed practitioner, and therefore not entitled to receive the pittance he thought sufficient for his services.

It is astonishing that in Christian communities that the wards of the county, sent to the poor-house at the public expense because of their legal right to this merciful care, have been treated as malefactors. Placed upon the coarsest of food, white and black intermingling freely and debasing each other, and in so many instances farmed out to the merciless task master at a price that allowed no margin of profit to the "farmer," except by reducing the food of these unfortunates to a starvation scale; or else by driving the unoffending inmates to the field to eke out their own living.

One poor fellow, a German Jew, confined to the county hospital with locomotor ataxia wrote to one of us a pitiful letter, asking us "please to send me a knife and fork, the eating here are so tough I cannot get it off with my teeth." In this very hospital the "farmer" amassed a competency, and earned the soubriquet of "doc," by administering physic to the county sick, to save the expense of a doctor's visits.

The evil has been, and is now wide-spread in this State. Dr. Tate Murphy made an official tour of all the charitable and penal institutions of the counties, when a member of the State Senate, and we are sure he will confirm our statement that wretchedness was found, where the counties should have been proud to have shown a refined humanity in the care of their helpless.

This brings us back to the reasons of failures in so many instances to organize County Boards.

The year 1878 was no exception to the niggardly economy in the care of the poor, and because we could do no better, we made the expenses of that year the basis of payment for 1879 and 1880. Of course an effort will be made to change all this by the next Legislature, and until then we ask that the leading regular physicians in the counties who have not organized, will take the matter in hand at once. If this law was faithfully carried out with that degree of pride which should possess the educated men of our profession, the renovation accomplished would elevate the status of the profession in this State to the highest degree. The possibilities are very great. Moreover this renovation is inevitable. The profession in North Carolina have already inaugurated good work, and the signs of the times are that in the future the means given to us by the State will be more efficiently used.

The Board of Medical Examiners is alive to the great responsibility resting upon them, and the several State medical bodies moving on together harmoniously, each in its own sphere, will send forward the current with a velocity that the most unwilling will not be able to resist. The responsibility of creating public opinion, or directing it into humane channels must be undertaken by the educated doctors. The world looks to them for reform in these matters, and whether they undertake it or not, the failure to accomplish it will be charged to their account.

THE TREATMENT OF CHRONIC ULCERS BY THE RUBBER BANDAGE.

The three most conspicuously successful among the surgical appliances of the last twenty-five years, named in the order of their usefulness, are Smith's anterior suspension splint in the treatment of fractures, Sayre's plaster jacket for spinal deformities, and Martin's rubber bandage for chronic ulcers, varicose veins, and some forms of skin disease.

The latter appliance is entirely too little known. In the JOURNAL, February, 1878, we called attention to it, promising to say more

about its merits when we had more extended experience. Since then we have treated many heretofore intractable ulcers, both in hospital and private practice, and the success has been equal to that promised for it by its distinguished inventor, Dr. Henry A. Martin, of Boston.

The first two cases selected for treatment with the rubber bandage were of the worst of the bad forms occurring among sailors. The first, a mulatto, passed the middle life, who was not only a cripple, but an offensive man among the rest of the crew, on account of the putrid odor of his leg, and was sent to the hospital hoping that amputation would save his life. Examination revealed an ulcer of enormous size, extending quite around the leg from two inches below the patella to the ankle. The leg measured the same across the instep as at the largest part of the calf--18 inches. We could hardly resist the temptation of examining the patient, under chloroform, to see how much of the bone needed to be chiseled away. But mentioning it to a professional friend who was present, the patient begged for some other relief, and Martin's rubber bandage after some delay was procured, and applied. In a month the patient was ready to return to light duty, and for the greater part of his detention in the hospital he was able to scour the floors, and do other work. His confinement in bed terminated with the application of the bandage.

In the second case a young negro sailor applied for treatment, with an exceedingly offensive and extensive ulcer on the calf of his leg. The edges of it were undermined, greyish, and covered with ichorous fluid, which dripped as the foul rags covering it were removed. A good washing with sulphate of zinc solution dripped from a bottle held high enough to get away all the gangrenous shreds around the edge, was followed by the application of dry borated cotton to fill up the irregularity of the surface, and Martin's bandage was applied. In two days the uniform pressure had brought the ulcer to the level of the skin, and in ten days the patient was ready for light work.

Many other cases kept under observation for the especial purpose of seeing how far the treatment resulted in permanent gain, were as satisfactory as this, although none had as extensive ulcerating area. One patient in particular had a traumatic aneurism of the left

femoral artery, with several small varicose ulcers on the leg. His constitution was much impaired by residing in the malarial atmosphere of a rice plantation. He had tried salves innumerable, and was now forced to take his bed. The rubber bandage was applied, first covering the small ulcers with bits of linen, and in a few days the patient was able to superintend his work in person. His ulcers break out now and then but it is only when he neglects his bandage. Like all the patients who have used the bandage for a few days, he has learned to apply it with nicety. And not only this, he has learned to place so much reliance in the bandage, that the ulcers give him little concern, and indeed he wears it as a matter of precaution.

Every one knows that the application of bandages has been one of the surgical means employed for the cure of ulcers, but very few doctors know how large a number of ulcers they will cure by Martin's bandage. It is not necessary to puzzle the brain about the class to which the ulcer belongs—whether specific or non-specific—but apply the bandage and meet the constitutional indications of the patient as the case demands. It is certainly the case, that no such results as we get from Martin's bandage are ever obtained from flannel or cotton bandages.

The priority of discovery which agitated the brain of Dr. Rushton Parker in the London *Lancet* of September, (Am. Ed.), a paragraph of which we quoted in the September JOURNAL, but which we by no means endorsed, is evidently more a matter of national pride, than of personal experience with him.

If Dr. Martin has not put the American medical profession under lasting obligation to him by mastering the subject of vaccination, and by making pure the fountain of our vaccine supply, his fame could safely rest on the introduction of the rubber bandage for the cure of chronic ulcers. He has carried conviction wherever he has succeeded in introducing his innovation, and the practice is destined to be of universal application. Let us remember that the honor attaching to all the discoveries which have proved successful in the prevention or alleviation of human disease, belongs to the men who have established them as permanent methods of practice, and not to the claimants who had been "using the treatment for a long time, but did not think it worth while to present it to the profession."

REVIEWS AND BOOK NOTICES.

CLINICAL MEDICINE. A Systematic Treatise on the Diagnosis and Treatment of Diseases. Designed for the use of Students and Practitioners of Medicine. By AUSTIN FLINT, M. D., etc. 8vo. Pp. 785. H. C. Lea. 1879.

The announcement of a new book by the elder Flint must awaken the liveliest interest in the minds of all practitioners, since it is through him that many of our best inspirations have been derived. Of one thing we may be quite sure, namely, that his motive in writing has been an altruistic one, looking in no way to selfish or ambitious ends; with him authorship is evidently the outcome of a sense of duty.

This is the seventh or eighth in the series of systematic medical works for which we are indebted to Dr. Flint, and like the others is destined to an equally high rank. In its smooth, round phrases, elevated tone, and concise and lucid language it is in keeping with the fine personal appearance, the elegant address, and dignified, yet pleasant manner of its learned author. It is not a treatise on the Practice of Medicine, for that he has already given us in his large work: it only aims to consider diseases in their diagnostic and therapeutic aspects, and takes purposely little account of causation, pathology or morbid anatomy, not that these are not highly useful parts of medical study, but because their consideration would give a character to the work which it was not intended that it should have.

Its subjects cover the whole scope of medicine and are arranged to conform with the most approved nosological classification; that is, the various diseases are grouped and considered in classes determined by their relation to the several great physiological systems, an arrangement which greatly facilitates the study of differential diagnosis.

We regret that we have not space enough to indicate all the excellent features of the book, and as there is absolutely no room for adverse criticism, we must be content with a general commendation, noting a few points only, taken at random and without wishing it to be inferred that they stand out with special prominence or significance beyond the rest.

The author in common with most modern authorities does not regard pneumonia as a local disease, but as an essential fever, of which the inflamed lung is a constant anatomical expression. The relation of this theory to the therapeutics of pneumonia is obvious. Pneumonia sometimes aborts, how, we are not told. It has been known to be aborted by quinia, but no explanation is ventured as to the mode in which this drug operates, whether through antipyretic virtue, by preventing inflammatory infiltration (cellular migration) or directly by destruction or displacement of the morbid cause of the fever.

Among antipyretics (their use in pneumonia is not specially referred to here) quinia, salicia, salicylic acid, digitalis and cold water are spoken of approvingly. Kibbee's cot is not mentioned.

Not much stress is laid upon the topical treatment of diphtheria. Rough manipulations of the faucial parts is deprecated, and it is pointed out that the mechanical removal of the membranes lays bare raw surfaces, and furnishes new sources of irritation and a ready way for the passage of septic material into the blood.

Thin slices of salt pork, stitched to a bandage are commended for application to the throat in anginose scarlatina.

The possibility is pointed out of persons being attacked with parenchymatous nephritis after exposure to scarlet fever, even without having taken the disease; this indicates how important it is that the kidneys and urine of such persons should be looked after.

Salicylic acid is regarded as the remedy *par excellence* for acute rheumatism; it naturally reduces the duration of the attack but does not, except, in this way, diminish the chance of cardiac complications. The alkalies have a parallel effect, but in a less degree. Colchicum is held to possess little or no remedial virtue in acute rheumatism, but is useful in the chronic forms and in gout.

In bringing this brief notice to a close we would call attention to the excellent introductory chapter of the book; it could have been written only by one possessing a full, ripe experience, and unusual analytical powers.

DER.

DIPSOMANIA—as Distinguished from Ordinary Drunkenness. By I. D. THOMPSON, M. D. Baltimore: Junior Physician to the Mt. Hope Retreat Insane Asylum. 1879. Pp. 16.

A MANUAL OF MIDWIFERY FOR MIDWIVES AND MEDICAL STUDENTS. By FANCOURT BARNES, M. D., M. R. C. P. Lond. 12mo. Pp. 201. H. C. Lea. 1879.

This little work purports to have been written for the instruction of midwives and medical students; but it overshoots the mark for the first, at least so far as this country is concerned, and falls much below the requirements of the second.

The mechanism of simple labor, which should constitute the main if not the only feature of the book, is treated of in too brief a manner, receiving far less consideration than deformities of the pelvis or the various forms of dystocia.

We fail, therefore, to see exactly what place this manual is to fill. Most of our so-called midwives are unable to read even the title page, and certainly the book does not contain all that medical students ought to learn. Perhaps there are a few practitioners who, not being very familiar with obstetric practice may find it useful in the facility with which it may be carried in the coat pocket for sly consultations.

Dr. Fancourt Barnes, the author, writes well and shows a potentiality for greater things than this.

His style is concise, lucid and learned, like that of his father, Dr. Robert Barnes, for which we may say of him, with the full compliment conveyed in it, *sequitur patrem possibus æquis*.

DeR.

RETROVERSION IN RELATION TO LACERATION OF THE CERVIX UTERI, etc. By NATHAN BOZEMAN, M. D. New York. 1879. Pp. 18.

REMARKS ON OVARIOTOMY, WITH RELATION OF CASES, AND PECULIARITIES IN TREATMENT. By NATHAN BOZEMAN. M. D. New York: Pp. 60. 1879.

Five Children at a Birth.—The *Cologne Gazette* reports from Kettwig that a woman there has had five children, four boys and one girl, at a birth. They only lived a few hours. Though very small, they were well formed. The mother is recovering rapidly.

CENSUS C., FOR YEAR 1879.

Aggregate Population.	MARRY STATISTICS.						Still Births.		TWINS.		
	WHITE to 1000 Population.								Pairs	Pairs	Total.
	Male	Fe- male	COLORED.			White.	Col'd.	White.	Colored.		
			Male	Fe- male	Total						
17,004	3,336	3,380	178.26	193.67	214.02	204.17	7	19	22	18	40
Under 18 mos.	147	178	178.26	193.67	214.02	204.17	Death Rate.		OLD PEOPLE.		
18 mos. to 6 yrs.	364	316	316.34	16.05	17.12	16.23					
6 yrs. to 21 yrs.	924	974	974.11	6.61	8.08	5.45	White.	Col'd.	White. Colored.		
21 yrs. to 45 yrs.	1,322	1,322	1,322.33	12.13	11.07	12.97					
45 yrs. to 55 yrs.	394	387	387.16	9.99	11.71	8.48	14.37	23.54	Polly Brock—87 years. Rainey Cochran— Over 100 years.		
55 yrs. to 70 yrs.	153	168	168.05	30.30	22.02	38.34					
70 yrs. to 80 yrs.	31	42	42.80	183.91	275.86	137.93	Death Rate of				
80 yrs. to 90 yrs.	1	1	1.11	333.33	0	400.00	entire Popula-				
90 yrs. to 100 yrs	0	0	1.00	133.33	1000.00	2000.00	tion—20.				
Over 100 yrs.....	0	0	0	0	0	0	Increase for,				
							the past 9 yrs				
	3,336	3,380					of nearly 21 per				
							per cent.				

DIVISION OF POPU- LATION.				LIMITS of CITY.			
Number of Months the Schools are opened for In- struction.	Number School Children from 6 to 21 yrs.			North to South in Miles.	East to West in Miles.	Total Territory in acres about.	No. of Horses.
	White.	Colored.	Total.				
9	1,896	3,025	4,921	2 3/4	1 1/8	2400	370
							348
							497
							1178
							876
							347

POSTAL STATISTICAL STATISTICS.

Letters & Postal Cards Mailed.	Letters & Postal Cards Received.	Cash Received for Orders Issued.	Paid Out on Orders.	Exports.		Cotton Receipts.		Capacity per day of Com- presses.	Depth of Wa- ter on Bar at Medium High Water.	Position as Cotton Port.	Crop of 1878-79.
				Foreign and Coastw'e.	1868 and 1869	1878 and 1879	Value.				
758,501	876,000	\$80,000	\$105.		Bales	Bales		2500	16	No.	5074165
				\$12,000,000	35908	135270	\$6425325	Bales	Feet.	7	Bales.

Compiled by V

1879

CURRENT LITERATURE.

EXPERIMENTS AND CLINICAL OBSERVATIONS ON THE HÆMATINIC PROPERTIES OF DIALYZED IRON.

In a contribution to the *Boston Medical and Surgical Journal*, by Robert Amory, M. D., we notice some points of unusual interest, not only for the clear and instructive manner the experiments were conducted, but for their scientific narration and illustrations.

The subjoined extracts will serve to render the matter intelligible, although the heliotype illustrations are needed to carry the full force of the author.

“Gowers’ hæmacytometer, the instrument I used in the following observations, consists of a glass slide upon which are ruled squares one-tenth of a millimetre in extent, and these are inclosed in a cell one-fifth of a millimetre in depth. This slide can be used with any microscope, and with a lens of any desirable magnifying power; moreover, the magnified image of the slide may be projected by means of a prismatic eye-piece upon a screen. The principle of Malassez’s “compte globule” does not admit of either of these convenient methods of delineation. In addition to the ruled slide there are two pipettes, one of which holds nine hundred and ninety-five cubic millimetres, and the other five cubic millimetres. The principle and method of using this instrument are then based upon the following facts: If a known measure of blood be carefully drawn from an acupuncture, and intimately mixed with two hundred times its volume of a saline solution (specific gravity 1025) having a density sufficient to prevent the corpuscles from imbibing water, and so bursting their envelopes, these corpuscles, separated from each other, will float in this mixture, and will finally settle down to the bottom of the containing vessel or dish.

“In this manner a small portion of the mixed or diluted blood is placed in the above described cell, and the corpuscles are allowed to settle to the bottom, so as to be nearly on the same plane as the ruled lines, and are pretty uniformly distributed. The number of corpuscles in ten contiguous squares can be readily counted, and this sum multiplied by the figure ten thousand will give the number of corpuscles in each cubic millimetre of the pure or originally

drawn blood because ten cubes, each one of which has the dimensions $\frac{1}{10} + \frac{1}{10} \times \frac{1}{5}$ millimetres (or $\frac{1}{500}$ of a cubic millimetre), will contain $\frac{1}{50}$ of a cubic millimetre, and since the original blood was diluted with two hundred volumes, the number of corpuscles actually counted in the ten squares must be multiplied by two hundred times fifty, or ten thousand, in order to obtain the number in each cubic millimetre of undiluted blood. If we wish still further to separate the corpuscles from each other, we may use four hundred volumes of the diluent to one of the blood, but in that case we must either count the corpuscles in twenty squares and multiply by ten thousand, or count those in ten squares and multiply by twenty thousand.

“The individual or personal error of vision which is associated with all other optical instrument is perhaps somewhat difficult to reduce to mathematical accuracy, on account of the fact that constant observation fatigues the eyesight, and hence the results of a series of these observations are subject to an inconstant variation. In consequence of this apparent difficulty, I decided to project upon a photographic plate the image of the corpuscles on the ruled slide, then to print from the negatives, and count upon the print the number of these corpuscles, each one being obliterated as soon as counted.

“Hearing from certain members of our profession expressions which indicated a skeptical distrust in regard to the virtues of the solution of dialyzed iron, I was induced to undertake a series of observations upon the hæmatinic properties of this medicinal agent, and yet I must frankly acknowledge in advance that my own clinical experience with this form of iron had led me to attach it to a value in simple anæmia, and to place this remedy by the side of Qnevenne’s iron. I have taken pains to inquire how much metallic iron is contained in the so-called dialyzed iron, and learn that a sample of the scaled dialyzed iron as prepared by one of our large wholesale druggists has been analyzed by Prof. Charles M. Cresson, of Philadelphia, and that he found it to contain fifty-two per cent. of metallic iron, or over seventeen per cent. more than is contained in the sesquichloride of iron ; compared with the sesquichloride it is equally soluble, keeps without change, does not corrode the teeth or fabrics with which it may be brought in contact, and contains a

greater percentage of iron. The manufacturer from whom this sample was obtained claims that his solution of dialyzed iron has over twenty grains of ferric oxide in each ounce of solution, and in proof of this has shown me a certificate from Prof. F. A. Genth, of the University of Pennsylvania, that a sample of his manufacture, which was purchased by the latter from a retail druggist in Philadelphia, contained 21.69 grains of ferric oxide in each ounce of solution.

"The following table of assays of various iron preparations was made by M. Quevenne. One gramme (fifteen grains) of the following preparations was soluble in two hundred grammes of gastric juice in the proportions named :—

Of 1.0 iron by hydrogen containing 1.000 pure iron was dissolved	0.102 pure iron.
Of 1.0 iron filings " 1.000 " " " "	0.070 " "
Of 1.0 of protosulphate of iron " 0.210 " " " "	0.056 " "
Of 1.0 protocarbonate of iron " 0.490 " " " "	0.050 " "
Of 1.0 persulphate of iron " 0.250 " " " "	0.046 " "
Of 1.0 lactate of iron " 0.190 " " " "	0.040 " "
Of 1.0 protochloride of iron " 0.430 " " " "	0.036 " "
Of 1.0 tartriate of iron and potass " 0.210 " " " "	0.022 " "
Of 1.0 oxide of iron heated to red heat " 0.700 " " " "	0.010 " "

"Forty parts of scaled or dialyzed iron from which water had been withdrawn without aid of heat was levigated very fine and placed in an artificial gastric juice prepared as follows : five parts hydrochloric acid and acetic acid, fifteen parts of pure pepsin, with traces of chlorides of sodium, potassium, and ammonium ; also phosphates iron, lime and magnesium in one thousand parts of water ; and temperature was maintained at 100° F. for five hours, then filtered through a "tared" filter, dried and weighed, showing a loss of iron amounting to fifteen parts. This shews that 3.00 grammes of scaled dialyzed iron (containing 1.5 grammes pure iron) are soluble in two hundred grammes of gastric juice.

"Having thus compared the properties of dialyzed iron with other well-known preparations, I will report five cases only, in which I observed its effect upon the globular richness of the blood. These were cases of simple anæmia uncomplicated by organic disease, and none of the individuals were placed upon any regimen of diet or exercise, but were allowed to continue the usual habits of

life. My object was to prevent the error of attributing any improvement in health or appearance to an improved diet, or to the more favorable effects of fresh air and exercise. I selected those cases in which I could personally observe the individuals from day to day, and could note any peculiarity of symptoms or unusual mode of life. The instrument which I imported from London was so inaccurate that I was forced to abandon it, as well as the reports of three cases in which it was used, and obtained from Prof. W. A. Rogers, of Harvard College Observatory, some very accurately ruled glass slides. I also procured some pipettes, and carefully estimated their capacity, so that I could place more reliance upon their measurements.

" *Case I* is that of a woman whose appearance was anæmic, and, as far as I could learn, had no organic disease. An earlier examination of blood had shown about 3,900,000 corpuscles per c. mm. of blood, but this negative was unfortunately lost. I have estimated in this 4,189,000 corpuscles per c. mm., or about eighty-three per cent. of the normal state of health. At first she took her medicine quite regularly, and in ten days gained 171,000 corpuscles, her blood having attained a per centage of eighty-six. The following six days she took the medicine very seldom and lost 500,000 corpuscles, and was in the same anæmic condition as before treatment, having a percentage of seventy-six. From this time onward she took the medicine more faithfully, but still omitting one dose about every two or three days, and in five days regained 440,000 corpuscles, having now a percentage of eighty-four. In another week she gained 60,000, and in four days more 160,000, having then a percentage of ninety-six.. In the whole period, from December 11th to January 10th, this patient showed an increase of 1,000,000 corpuscles, or an improvement of twenty per cent. During the whole time she was under observation she menstruated twice, but apparently with very slight effect upon the globular richness of the blood. None of these prints, Nos. 5, 6, 7, 8, 9, 10, 11, were taken during menstruation.

No. 5.	December 5th,	4,189,000 or 83 per cent.	
No. 6.	" 13th,	4,360,000 or 87 per cent.	
No. 7.	" 19th,	3,850,000 or 77 per cent.	(Has taken iron seldom.)
No. 8.	" 24th,	4,240,000 or 84 per cent.	
No. 9.	" 31st,	4,630,000 or 92 per cent.	
No. 10.	January 6th,	4,820,000 or 96 per cent.	
No. 11.	" 10th,	4,860,000 or 97 per cent.	

"*Case III* is that of a young woman about twenty years of age, pale and thin in appearance, who has at previous times been much improved by a ferruginous tonic treatment. She complained of languor, dizziness, muscular fatigue, cold, moist hands, painful menstruation, etc. Estimates from prints:—

No. 17.	December 17th,	3,700,000, or 74 per cent.	(Began treatment,)
No. 18.	" 31st,	4,700,000, or 94 per cent.	
No. 19.	January 15th,	4,200,000, or 84 per cent.	(Having a headache.)
No. 20.	" 17th,	4,600,000, or 92 per cent.	

" Apparently, on January 12th, her headache caused a diminution in globular richness, and for the sake of comparison I show print No. 21 of my own blood, taken during a headache; ordinarily my blood shows over 5,000,000 corpuscles per c. mm.; the number estimated by this print is only 4,350,000.

"*Case V.*—A married woman, who has had chlorosis and anæmia for several years, her appearance being white and bloodless, has been a patient of Dr. Sabin's for two years, and her chronic anæmia has been a marked feature; apparently she has no organic disease other than this impoverishment of blood. Figure 27 indicates that the globular richness of blood is only 3,500,000, and at that time she began treatment by dialyzed iron. On one of the last days of February she had diarrhœa, with some catarrh of intestines, which was controlled in two or three days by ordinary doses of morphine and chalk mixture. On March 3d, after a fortnight's use of the solution of dialyzed iron (Figure No. 28), her globular richness had improved to 3,560,000 in spite of the diarrhœa. On March 19th another examination showed 3,600,000 corpuscles per c. mm.

" There is certainly good reason for saying that four or five cases are insufficient to establish definitely that the solution of dialyzed iron cures anæmia. However, an analysis of the history of these cases shows that all the individuals were in comfortable circumstances, as far as food, clothing, and homes were concerned; that none of them had any organic disease (if we accept simple impoverishment of the blood); that they were aware of being out of their usual health; that they were unable to accomplish their regular work; that none had impaired appetite, nor feeble digestion; that three of the four suffered from neuralgia or headache; finally all had diminished corpuscular richness of blood, varying

from 3,350,000 to 400,000,000, and that under the continued use of ninety drops of solution of dialyzed iron per diem this condition of impoverished blood was replaced by an increase in the number of corpuscles, from 3,600,000 to 4,900,000, and the symptoms of ill health simultaneously disappeared with this improvement.

"Dialyzed iron may increase the globular richness of blood, but it may have no effect in bringing about the chemical combination of oxy hæmoglobin. If the supposition be true that there is a state of ill-health in which the corpuscles may be numerically normal, but may simultaneously be deficient in coloring matter, we may conceive of an anæmic or chlorotic patient who may require some therapeutical means for improving this deficiency other than simple iron. I may have been extremely fortunate in selecting just those cases in which a simple form of iron was indicated, and it may not be impossible that another form would have benefited my cases as much as the dialyzed iron; yet the latter is preferable to the more astringent iron salts, because it does not impair the digestion, nor produce constipation.

"I cannot close my communication without an expression of thanks to Dr. Sabine and my laboratory assistant, Mr. J. G. Hubbard, whose material assistance lent much to the value of the record of these experiments.

"Now, one final word about the various solutions of dialyzed iron. Many of these solutions are valueless, some are very dilute, and a few are of pretty uniform standard, and contain only the products of dialysis from a salt of iron and distilled water. If physicians use a worthless preparation, they need not expect an improvement in the *alæmia*; if they use a dilute solution, they must prescribe a larger amount of the secretion. In the preparation I used for these experiments the solution had a specific gravity of 1042, and had no free acid.

Dr. Amory in a note to Messrs. Wyeth & Bro., dated Longwood, Mass., April 9th, 1879, says that in the experiments above detailed, he used only the dialyzed iron manufactured by that firm.

The office of the NORTH CAROLINA MEDICAL JOURNAL and North Carolina Board of Health has been removed to the corner of Chestnut and Second Streets, opposite the Post Office.

FLINT ON THE SOURCE OF MUSCULAR POWER.

Dr. Flint discusses the question as to whether the muscular power manifested by man and animals is the direct product of the metamorphosis of the elements of food ingested, or is generated by changes in the muscular tissue itself. In the latter case, the muscular substance as such is destroyed, and is discharged from the body in the form of excrementitious matter, whilst the waste is repaired by food. In the case of a steam engine, the latent energy of the fuel is developed into heat by combustion, and the engine itself serves merely as a convenient mechanism for translating the heat into actual working force. In like manner, according to some physiologists, the muscles and active organs of the body are merely a convenient mechanism for translating into force the latent energy of the food which is devolved during the metamorphosis of digestion and assimilation. In opposition to this theory, Dr. Flint analyses some observations made by Dr. Pavy upon Weston and other pedestrians, and shows that the estimated force value of food was sufficient to account for only a small fraction of the muscular work actually performed. By a further analysis of some observations of his own, Dr. Flint concludes that the true origin of muscular power must be sought in the muscles themselves, and that the exercise of these muscles produces a waste which is measured by the nitrogen excreted. Indirectly the nitrogenized food is a source of power by repairing waste and devolving capacity for work; but food is not directly converted into force in the living body, nor is it a source of muscular power, except that it maintains the muscular system in a condition for work.—*London Medical Record*.

DR. BEARD IN THE HANDS OF HIS BROTHER SPECIALIST.

In the *London Medical Record*, of September 16th, Dr. Julius Althaus reviews the well-known and widely distributed papers by Dr. George M. Beard, entitled "Neurasthenia," and, "Other Symptoms of Nerve Exhaustion."

Dr. Althaus might well devote his energies to another and less explored field of pathology.

The reviewer continues: "If one and all symptoms of nerve-fatigue, which occur in daily life, temporarily after over-exertion, or habitually in debilitated persons, are to be made the subject of a lengthy kind of a *causare*—for no other word is applicable to it—this kind of medical literature is indeed practically illimitable.

"No doubt we have all occasionally felt a distressing feeling in the stomach when empty, only by eating; and we have probably all noticed a person gaping and yawning after long reading a newspaper, though no other evidence of weariness annoys him; but is it really necessary at the present day to bring such subjects prominently under the notice of the profession?"

He speaks of Dr. Beard's word coining as etymologically bad, and moreover, perfectly sure not to be adopted by the profession.

"The same vagueness which we have noticed in the author's *chatting* about symptoms, is perceptible in his remarks on treatment. Of what use it to tell us that the following are the chief agents in the treatment of neurasthenia?—"Electricity in the methods of general faradization and central galvanization, arsenic in its different forms, as Fowler's solution, and chloro-phosphide, arsenite of strychnia, ergot, cannabis indica, all the bromides, quinine, iodide of potassium, digitalis, calabar bean, conium, gelsemin, belladonna, malt, oil, phosphorus, strychnine, iodoform, cimicifugin, kumyss and the salts of zinc; counter-irritation, mental therapeutics, massage, ice-bags and hot-water bags and hydrotherapy in the form of hot, warm and cold baths, Russian baths and douches"; or that "individual idiosyncrasies must be religiously respected, and when we find one cannot bear gelsemium or belladonna, for example, we can fall back on other remedies;" also that "Medical treatment to be surely effective must be combined with hygienic treatment." These are platitudes which can only be excused in taking to first year's students, but should not be brought forward as contributions to the therapeutics of nervous diseases."

Rapid Cure of Coryza is reported to be effected within an hour by chewing one or two dried leaves of encalyptus. It has no effect in chronic cases.

DISEASED ANIMALS AND BAD MEAT.

The recent convictions before the metropolitan magistrates for the hawking of uneatable meat about the streets remind us of a little pamphlet just published by Mr. Francis Vacher, Medical Officer of Health for Birkenhead, "On the Diseases of animals which do not necessarily render them unfit for food." In this interesting and instructive *brochure* Mr. Vacher classes the diseases of animals under three heads: (1) Those which render the meat unfit for the food of man; (2) Those which depreciate the quality of the meat, or make it preternaturally liable to decompose, but which do not necessarily, except in their latter stages, render the meat unfit for food; (3) Those which do not depreciate the quality of the meat or increase its liability to decompose, and rarely render the meat unfit to be eaten. The diseases classed under the first head are cattle-plague, swine-typhoid, epizootic pleuro-pneumonia, sheep-pox, normal cow-pox, influenza, acute rheumatism, the scarlatina and quinzy of swine, splenic fever and anthrax, and the diseases known by the presence of cysticerci and trichinæ. The diseases under the second heading, and which in their latter stages may render the meat unfit for food are, foot-and-mouth disease, hoof-rot, tuberculosis, acute inflammatory disease of the lungs, intestinal canal or serous sacs, jaundice, cardiac dropsy, nephria, enthetic disease, and the three parasitic diseases of sheep due to the presence of the *cœnurus* in the brain, the *echinococcus* in the lungs and liver, and the *distomum* in the liver. With regard to the first-mentioned in this list, Mr. Vacher says, "If the carcase you are called upon to inspect has been the subject of epizootic aphtha only, even though the eruption be abundant on the mouth, feet, and udder, it is generally considered it may be safely passed. The flesh looks good, and is. 'It is frequently sold on a large scale, and as there is no instance of such food producing ill-effects, there appears to be,' as Mr. Fleming observes, 'no reason to interdict its use as an article of diet, so far as the production of disease is concerned. Mr. Vacher, however, mentions certain conditions under which a carcase should be at once condemned. With regard to tuberculosis, the writer would pass the carcase when the disease is uncomplicated and in an early stage, and when there are deposits in the thorax only. In the case

of such purely inflammatory diseases as pneumonia and pleuropneumonia, unless the disease is epizootic or far advanced, it affords no grounds for condemning the subject of it. But peritonitis, unless circumscribed, is usually regarded as sufficient ground for condemning a carcase. Cardiac dropsy confined to the serous cavities, and considerable of one or both kidneys, are also consistent with a tolerably wholesome carcase. With regard to that common disease in sheep called "the rot," and which owes its origin to the *distomum hepaticum*, or liver fluke, Mr. Vacher says, that in judging of carcasses from which flukes are removed, the simplest course is to take no notice of the flukes, but to look to the condition of the carcase. If the flesh is soft and, the fat wanting in firmness, if the muscles are much wasted, and the cellular tissue œdematous or emphysematous, and if the liver is knotty and friable, the sheep is not fit for human food. The consideration of the third class may be dismissed in a very few words, as the diseases mentioned are merely such trifling complaints as obviously would not render the meat unwholesome.—*Medical Press and Circular*.

PROFESSOR VIRCHOW'S INFIRMARY IN THE TROAD.

When Professor Virchow paid, some months ago, a visit to the scence of Dr. Schlieman's excavations in the Troad, he expected to enjoy a holiday from professional work ; but he was very quickly undeceived on that point, and he has given to the world in his *Archiv.* some account of his unexpected medical experiences. He had hardly been a day at Hisssarlik before several sick workmen were brought to him for treatment ; and the report that the new Effendi was a great and renowned *hakeem* spread rapidly. There is no medical man, or even a quack, in the Troad ; and consequently, sick and infirm people flocked in daily increasing numbers to His-sarlik from far and wide. There are no roads and no vehicles. So the people came on foot, or on horsaback, or riding on asses ; even women coming thus from a long distance. Very infirm people were brought in great baskets slung across a horse's back, sometimes one

on each side by way of balance. The patients used to range themselves in a long row, opposite the wooden hut in which Virchow lodged, each waiting patiently until his or her turn came. The majority were Greeks, from the Greek towns and villages near the coast; but there were also Turks and Bulgarians gipsies, Armenians, and even Persians. It is easy to understand that the difficulty of communication was not inconsiderable in this conglomerate of nationalities; and not unfrequently the services of more than two intermediary interpreters were necessary to enable the physician to understand what the patient wished him to know, and to convey back his instructions. Most of the maladies were of the malarial fever type; for the Trojan plain, with its great swamps, is a choice abode of malaria. Professor Virchow declares that he found his patient quite willing to obey his instructions, even when they ran counter to their susceptibilities and usages. Medicine had to be fetched from the Dardanelles, and the supply was precarious. Fortunately, he had in a small medicine-chest of his own, and in the larger boxes of Dr. Schliemann, nearly every thing he wanted. He found the people very grateful in their own simple way. They found he loved flowers; and every morning quantities of flowers used to be brought to his hut. For geological purposes he had had an excavation made in the old bed of a stream now dry, and by his directions the men dug until water rose. Dr. Schliemann writes to Virchow that the inhabitants "regard the excavation and spring with veneration, and have fenced it around with stones. The spring is called 'the doctor's well,' and magical virtue is ascribed to it. Every one comes to draw water from it."—*Med. Times and Gazette*.

AMERICAN PUBLIC HEALTH ASSOCIATION.

As a matter of interest not only to sanitarians but to the public generally, the executive committee of the National Board of Health considers it proper to give a place in the columns of the *Bulletin* to the following announcement of a proposed discussion on yellow fever at the next meeting of the American Public Health Association to be held in Nashville on the 18th to the 21st of November,

the executive committee being authorized to publish such notices "in medical, scientific, and other periodicals, but without expense to the association :"

ANNOUNCEMENT.

The executive committee of the American Public Health Association has decided to supplement the discussion on certain points relating to *city sanitation* heretofore ordered for the Nashville meeting and announced in the President's circular of August 15, by one on the practical questions connected with the management of an actual or threatened outbreak of yellow fever. It is considered proper that the whole country should have the benefit of the practical lessons taught by the epidemic visitation of 1878 and 1879, and it is fit that the popular diffusion of this knowledge should be made through the medium of this association, which will have an unusually favorable opportunity at the meeting in Nashville, November 18-21, for collecting and recording the conclusions of intelligent and skilled observers as to the practical working of the measures recently put into operation by State and municipal authorities, aided by the National Board of Health, with a view to prevent the spread of the disease from local sources of infection.

The oral discussion will be prefaced by the reading of several papers by members of the Association who have been actively engaged in this practical work during the prevalence of the existing epidemic in Memphis and elsewhere. In order to give definite direction to the discussion the executive committee has adopted the following schedule of the points to be especially considered :

1. How to deal with a city in the yellow fever zone in order to prevent the appearance of a first case.
2. How to prevent the importation of a first case.
3. How to deal with a first case and early cases generally when, in spite of precautions under first and second headings, it has made its appearance.
4. The duty of local Boards of Health, or other health authorities to report such cases promptly, even though there may be some doubt as to the diagnosis. Whether the knowledge that such reports would be faithfully made would not have a tendency to allay apprehensions and give confidence to other communities while warning them of the importance of making preparations for contingencies.

5. Under what circumstances may it become necessary or expedient to remove the unacclimated portion of the population from an infected place? How may this be effected for the poorer classes of the population, and how should the people thus removed be cared for and supported?

6. Measures for isolating a dangerously infected place.

7. Organizations for the relief and treatment of the sick in an infected city.

8. Measures for preventing the spread of the disease from an infected place by railroad, including the management of transfer stations.

9. Inspection of steamboats at an infected place and at intermediate stations between the port of departure and their final destination. Should stations of observation be established by the National Board of Health? If so, what should be their relations to the health authorities of the States within whose territorial limits they may be established?

10. Results of the coöperation and aid given by the National Board of Health to State and municipal Boards under the provisions of the act approved June 2, 1879. What suggestions may be made to render this system more efficient?

J. L. CABELL,

President American Public Health Association.

DERMATITIS VENENATA ; OR RHUS TOXICODENDRON AND ITS ACTION.

This paper reminds most of us of the well-known, but easily forgotten things about poisonous ivy, and other plants whose touch or effluvia produce dermatitis.

The popular description given of the plant is quoted as a reminder.

“The poison ivy vine bears many resemblances to our common woodbine, or Virginia creeper. The easiest way to distinguish them is to remember that the former has but *three* leaflets, which grow on long, semicylindrical petioles, while the latter has *five*. I have more

than once taught children to remember that a vine which has a leaf for the thumb and each finger of one hand is safe for them to handle ; otherwise they should avoid it."

The character of the specific poison is as follows :

" With regard to the nature of the poison, there can be no doubt now that it is owing to a volatile acid to which has been given the name of *toxicodendric acid*. It has strongly acid reactions, completely neutralizes bases, forms with excess of oxide of lead a soluble salt, precipitates with soluble salts of lead an insoluble toxicodendrate, and separates metallic gold from a warm solution of its chloride. Potassium permanganate is readily reduced by it (Stillé). It resembles formic and acetic acids in many of its reactions, but does not produce a red color with neutral ferric salts. It was first investigated by Dr. Khittel in 1857 (*vid. Amer. Journ. of Pharm.*, 1858), and was more thoroughly examined by Prof. Maisch (Proceedings of Amer. Pharm. Association, 1865)."

On the subject of treatment, we have a resumé of the remedies which have been found useful. The only apparently original suggestion of the author is the employment of camphor ohloral. He has found nothing that excels it as a local sedative to relieve intense itching.

Dr. A. G. Smythe in the *Medical Record*, calls attention again to his remedy—sulphite of soda.

[We have had recent opportunity to try *all* the remedies enumerated, and none of them succeeded. We are ready to try anything else suggested.—Eds.]

THE COLD BATH AND AFFUSION IN HYPERPYREXIA.

By J. LUCAS, M. D., F. R. C. S.

* * * * *

The subject, a native soldier of an infantry regiment quartered at Malwa, young and of short service, but poor stamina or *vis nervosa*, was admitted into hospital on October 1st last, for fever with pulmonary complication. The latter was soon subdued, but the

former continued and assumed a grave remittent type. The exhibition of quinine, subcutaneously and by mouth, had little, if any, effect in reducing the temperature, and thereby of preventing or checking the rapid metamorphosis and destruction of vital tissues in the system, which it was evident would yield and give way under the combustion. So I resolved to afford the patient, who was in the most critical condition, the benefit of a plan on the merits of which much has been justly and faithfully said and written, which is based as we know on sound and rational principles, and the results of which have been supported and confirmed by independent clinical observations.

On October 14, at 5 P. M., the axillary temperature* was registered at 102.8° F. At my visit, half an hour thereafter, it was again taken and found to stand at 103° F., with a quick, full, and somewhat wiry pulse, and rapid and heaving respiration. The plan I adopted was the following:—The patient was undressed, and a sheet bandaged round the body (from the neck and shoulders down to the perinæum); this done, he was lifted bodily, put in a recumbent posture in a bath placed at the bedside, the temperature 80° F., and a piece of cloth dipped in the same water was tied round the head (the object being to prevent determination of blood to it); and the water-carrier was now directed to pour from his leathern bag, a small but continuous stream over the entire body. This was done for about eight minutes,† during which the pulse was watched. The patient was then dried, flannel cloths, etc., put on; he was lifted‡ and replaced in bed, and covered with warm blankets.

The thermometer, two minutes after his being put back, stood in the axilla at 97° F.; the pulse was less full and decidedly slower; and his breathing was likewise easier. There was no shivering or other untoward symptom; and before I left the hospital I caused the following draught to be given, with instructions that he should be carefully watched through the night, and fed at short intervals with drinks of cold milk:—*R. Vini rubr. ʒ ss.; spt. ammoniæ*

*According to my experience, after taking the temperature of over 500 native adults (both meat-eaters and spare vegetarians), the average normal temperature is 97.4° F., in India.

†In some of the subsequent immersions it was prolonged to even thirty minutes.

‡After some days, the patient being not so weak, was allowed to go in and out of the bath with little or no help.

aromat. m x. ; quininæ sulphat. grs. xv. ; aquæ cinnamoni ʒ jss. It would be interesting to add here that the temperature of the water immediately after the patient was removed was 84° F.—*id est* it, (according to physical laws) gained 4° F., while simultaneously the patient lost 6° F. of intrinsic heat. After some of these immersions, as much as fifteen, twenty and forty grain doses of quinia were administered to assist in the objects in view :—

[The temperature record for seven days shows a fall of temperature after the immersion of the patient, varying two to five degrees.]

These cold baths were continued for seven days. The number of times a day they were repeated was in the main regulated by the height of the temperature ; and, as a rule, they were resorted to whenever it rose above 100° F. (2.4° above normal). On October 22, there being some bronchitic symptoms, the baths were discontinued, and in their place, under similar circumstances, injections of cold water per rectum were substituted, with the results under-mentioned.

[The variations in temperature after the injection of water per rectum were from .2° to 2° F., the observations extending over eleven days.]

During this time, with these injections, which were continued until November 6th, it was found necessary to administer scruple doses of quinine thrice in the four-and-twenty hours. There was some tolerance of the drug, and the symptoms designated quininism were but slight ; it is, perhaps, also worthy of note that the cold injections produced no evil effect in causing intestinal catarrh. During the critical period of the case the temperature was registered as often as eight times a day ; but it is unnecessary to publish those details.

The case terminated in recovery, and the patient gained flesh steadily, though slowly ; and during convalescence he was taking a ferruginous mixture in a decoction of *margosa* or *neem*.*

Remarks.—Had the patient's vital powers been lower than they were, and the maximum temperature much higher than it was, I would still have had recourse to the cold bath in a similar manner, but would have taken the precaution to administer a diffusible stimulant prior to the immersion, and would also have made the

* *Vide* Dr. Waring's "Pharmacopœia of India," page 53.

bath and affusion more graduated (the temperature of the water lowered by degrees).

I would, however, not be understood to say that the mere employment of cold in the hot stages of malarial and other fevers will *per se* effect recovery, or in any way to depreciate the admirable virtues of quinine. The favorable result obtained in these cases by the repeated reduction of the high temperature is, in my humble opinion, of as much consequence as the reverse is in the curative process of cholera and allied affections, where our indications are to restore the lost heat; and this may be done by warm or even hot baths, injections of warm liquids (beef-tea, with or without alcohol, etc.) per rectum, bladder, and perhaps also hypodermically (which will, I fancy, relieve the cramps); while thus by gaining time by the, though but partial, restoration of absorbing powers, and by rendering the system more susceptible to external impressions, our specific and other remedies and aliments (whether we are treating a case of remittent fever, sunstroke, enteric fever, or cholera) will, *pro tanto*, have greater effect.

I have also to express my assent with those observers* who believe, like myself, that the suppression of the action of the sudoriparous glands bears little or no relations to the keeping up the temperature of the body; for I have not unfrequently, like them, been struck by the observation that, with a moist or even profusely perspiring skin, the clinical thermometer made clear beyond doubt this deception. And it may be said that had it not been for the laborious investigations of such men as Drs. Wunderlich, Parkes, Ringer, and others, to whom we are especially indebted for the light thrown by them on this previously and until very recent date unexplored field, in which still many a point remains undetermined, our knowledge would have been far short of its present stage, nor would there have been, as there now is, the promise of still further advance and perfection.—*Medical Times and Gazette*.

M. Chassaignac.—The death of this famous surgeon, which occurred at Versailles, will bring to mind many of the important surgical devices of which he was the originator.

*As notably Dr. Sidney Ringer, *vide* his article in the *Lancet* of 1873, vol. ii., pages 473, 474, and other contributions; see also this author's "Handbook of Therapeutics."

IODIDE OF POTASH AND CALOMEL IN OPHTHALMIC PRACTICE.

It has long been claimed that if calomel is dusted in the eye during the administration of the iodide of potash, the mild chloride is converted into the corrosive in the cul de sac, and great irritation of the conjunctiva results.

A day or two should be allowed to elapse after the last dose of the iodide before the calomel is used locally. Dr. W. Schlarfks (Göttingen) formulates his recent investigations as follows :

1. The fact that calomel, during the internal use of the iodide of potash, excites violent inflammation in the external parts of the eye, has been repeatedly established clinically, is as often forgotten and seems likewise to be very little known.
 2. The iodide of potash, taken internally, spreads rapidly through the system, enters in a very short time the various secretion and excretions, and appears in a very few minutes in the tears.
 3. The iodide of potash, in 0.5 gr. ($7\frac{1}{2}$ grains) doses twice a day, is constantly present in the lachrymal secretion.
 4. Calomel is only very slightly soluble in water, ten times as much so in a $\frac{2}{3}$ per cent., salt solution.
 5. Calomel powder dusted in the cul de sac of the conjunctiva is gradually dissolved as such in the continuous stream of water, in this way acting chemically.
 6. If calomel is dusted into the eye when the iodide of potash is present, the iodides of mercury are found.
 7. Both act as a caustic, since they become soluble by the presence of salt or potash, and excite violent inflammation.
- Therefore, 8. The external use of calomel must be abstained from so long as the tears contain the iodide.—*Archiv. f. Ophthal.*, Vol. 25, part 2, 1879.
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Method for Performing Post-Mortem Examinations.—An extra edition is issued of this manual, that the numerous applications for it may be complied with. Send three letter stamps to the office of the JOURNAL.

NEW PREPARATIONS:

A monthly Journal of Medicine devoted to the introduction of New Therapeutical Agents. Edited by Wm. Brodie, M. D., \$1.00 a year.

We have been especially attracted by the appearance of this journal for September. It shows every evidence of vigorous life. The material is excellent, and the mechanical execution of it all that could be desired.

There must necessarily be a great deal of crude reporting and writing about new remedies, as for the most part many of them are utterly worthless. The discriminating skill of an editor on work of this sort must be put to the trial frequently. Dr. Brodie does his work with progressive good judgment, and we bespeak for him a great many new subscribers, as we can say to them, they could hardly invest a dollar in a better way.

A New Digestive.—The American profession by long-continued fault-finding in regard to the character of pepsin sold to them, stimulated the producers of it to bring the article up to a reliable standard. For several years American pepsin has been relied on with confidence, and its use has been almost universal. It seemed as if there was no room for improvement, until Lacto-Peptin (ought it not be Lacto-Pepsin) was brought to the attention of the profession. Now the quantity of this preparation sold must be enormous, for even the old physicians who dislike innovations are willing to substitute lacto-peptin in their powders for summer-complaints of children, in lieu of the old-fashioned blue chalk and pulvis sorbens.

We have had great satisfaction in the use of lacto-pepsin, combined with bismuth, in the chronic diarrhœa of broken-down sailors, and in the copulous diarrhœa of children. In atonic dyspepsia it has exceeded our expectations, giving relief to the patients, and comfort to the doctor who had puzzled his brain to find the right thing. The materials entering into this compound, judging by the results, must be of the best quality.

MEDICAL ANNOTATIONS.

We are pleased to see by the report of Dr. John L. Meares, Health officer of San Francisco, that the death of that city has been materially reduced in the last year. This speaks well for the energy and vigilance of Dr. Meares, and is another proof of the progress sanitary science is making.

Famous Tooth-Pulling with a New Anæsthetic.—Dr. John Bull has at last succeeded in extracting an ivory tooth from the famous savage chieftan Cetywayo, measuring seven feet in length and about a half a yard in circumference at the girth. No anæsthetic was administered but gun-powder.

Early Inhalation of Ether.—Dr. Sexton calls attention to the fact that as early as 1829, Mr. Wm. Wright, a London aurist administered ether by inhalation to allay the irritation of the meatus which prevented the examination of the ear, and to allay the cough induced sometimes in its examination.

Cetraria Islandica.—We are in receipt of handsome specimens of this lichen, formerly so much esteemed for its medicinal virtues, from the mountains of North Carolina. In the same package we received some other beautiful specimens, that would incline the botanist to leave all and add them to his possessions.

The Seven Springs Iron and Alum Mass has been before the public for a long enough time to establish its merits; and to those of our readers who have not yet tested this remedy we advise them to satisfy themselves about it. It is an alterative and tonic, and will give good results when applied to the various diseases which follow in the wake of malarial fevers.

Two New Metals.—*Sammarium* and *Norwegium* are announced as having been discovered by Prof. Tellef-Dahl, of the University of Norway. The discoveries were made by means of the spectroscope, and were found in the rare North Carolina mineral known as *samaraskite*. Mitchell county, in this State, we are informed by Professor W. C. Kerr, the State geologist, furnishes the cabinets of the world with specimens of *samaraskite*, as only minute specimens have been found in Russia.

Recurrent Vesical Calculus.—Prof. T. G. Richardson, of New Orleans, (*Medical and Surgical Journal*, October), operated on a patient for a bullet in the bladder in 1865, and in 1879 the patient

returned with another calculus, which after being removed and crushed, a thread was found to be the nucleus around which it had formed. Dr. Richardson thinks the thread was carried into the bladder by the missile, being entangled in the cicatrix at the time of the first operation, but becoming loosened afterwards, and so did the mischief.

Dilute Sulphuric Acid in the Treatment and Prevention of Cholera.—Dr. MacCormac, of Belfast, in a letter to the Secretary of State for India, calls attention as a matter of public duty to his success in preventing and treating cholera with dilute sulphuric acid. The plan which gave him such great success, arresting almost immediately the spread of the cholera was to give sick and well a drachm of dilute sulphuric acid in a small cup of peppermint water. As soon as they came under the influence of the acid which was immediately, no other case appeared.—*Medical Times and Gazette*.

Dr. Bulkley will give a third course of lectures on "Diseases of the Skin" in the Pathological Amphitheatre of the New York Hospital, 7 West 15th St., Wednesday afternoons from 2:30 to 3:30 Commencing Wednesday, October 8th, 1879. The Lectures will be Didactic and Clinical in character, going over the entire subject of Diseases of the Skin, (including syphilis) and will be freely illustrated by colored plates, photographs, life-sized models, the blackboard, and abundant clinical material. The pathology, differential diagnosis, and treatment of diseases of the skin will be especially considered. The course will consist of twenty-four lectures and will be free to practitioners of medicine and medical students.

Gun-Shot Wound of the Uterus, the Bullet Traversing a Six Months Fœtus—Recovery.—Dr. Geo. A. B. Hays, of Plaquemine's Parish, reports a case in the *New Orleans Medical and Surgical Journal* for October, in which a ball weighing 136 grains penetrated the abdominal cavity at the left side, about two inches in front and above the anterior superior spinous process of the ileum, ranging upwards, and lodging in the abdominal cavity. The woman was a six months pregnant primipara. Labor pains set in the next day and the woman gave birth to a fœtus, examination revealing that the ball had penetrated beneath the left scapula, ranged diagonally through the trunk a distance of about three inches, and made its exit in the right hip. Puerperal fever set in with peritonitis, but the patient was dismissed, well, in a month after the injury was inflicted.

Offenberg on Curare in Hydrophobia.—Dr. Offenberg, of Munster, has lately treated with curare a woman who had been bitten by

a mad dog. He did not confine himself to the usual small doses, but injected about two decigrammes of curare under the skin in the course of five hours. The patient was in a terrible state, and seemed on the point of being suffocated when the injections were made. After the first injection, the convulsions ceased suddenly. This was owing the power which curare has of paralyzing motion. After a short pause, however, the convulsions began again, and several additional injections had to be made. At last the effects of the curare became so powerful that the patient was in danger of dying of paralysis of the heart and the respiratory muscles, and could only be saved by artificial respiration. She then fell into a state of exhaustion and weakness, from which she recovered after a time, and became quite well.—*London Medical Record*.

Quotations from the Talmud on Medical Matters.—Mr. Magnus, Sen., of Berlin, publishes in the *Deutsch. Archiv f. d. Geschichte d. Medicin* (1879, p. 240) the following passages from the Talmud :

At the head of all diseases am I, the Blood ; at the head of all remedies am I, the Wine.

Eat hearty : You will feel its effects when walking.

A drop of cold water mornings (in the eye), and washing the hands and feet in the evening, are better than all eye-salves.

Before a distant physician may arrive, the eye may become blind.

Badly off is the town whose physician has the gout, and whose oculist only has one eye.

Honor the physician before you need his services.

A physician who makes gratuitous cures is of no account.

The door, which is closed to prayers for alms, opens for the physician.—*Canadian Journal of Medical Science*.

Late Suggestions on Ozæna.—Dr. Frankel, in Virchow's *Archiv*, gives a number of cases which he thinks will confirm the views of those who believe that ozæna always owes its origin to a dyscrasia—two of his patients were phthisical, two syphilitic—but does not believe, though admitting the frequent coincidence of ozæna with pharyngitis sicca, that both the diseases are in casual connection with each other.

In an Italian contemporary, Dr. Massei, starting from the theory of a parasitic origin of ozæna, recommends the following treatment :
a. Gradual dilatation of the obliterated nasal passages by means of elastic bougies ; *b.* Clearing and disinfection of diseased regions by a very weak solution of salicylic acid (1 part 500 parts of water), applied by means of a syringe ; *c.* Modifying local medication, by blowing calomel powder through a nasal speculum on the ulcerated surfaces. The author says that there is always an arrest in the process of healing at a certain period, but advises strongly not to give up this treatment, but to continue it patiently until total cure is obtained.

In the *Memorabilien*, Dr. Dawosky describes his successful treatment of that form of ozæna called *punaisie* (in German, *stinknase*). He carefully removes all crusts, washes the mucous membrane with a two per cent. solution of silver nitrate, and every evening tampons the nostril with a plug of charpie as thick as the finger, moistened with glycerine and that thickly dusted with powdered alum. In the morning this is removed and nostril washed with injections of permanganate of potash or zinc, in weak solution. The odor soon disappears, and by persistence a cure is effected.—*Med. Press and Circular*.

Puerperal Thrombosis.—I will not intrude upon you other analogies. Many will present to your minds. I will only hint at the close pathological relations between these cases of so-called phlegmasia dolens in childbed women and septicæmic puerperal fever, pelvic cellulitis, and pelvic peritonitis and inflammations of other serous membranes. Phlegmasia dolens may be taken as the type of what I long ago proposed to call the “autogenetic” puerperal fever, in contradistinction from those fevers which owe their origin to empoisonment from without, the “heterogenetic” fevers. But we must not forget that phlegmasia dolens may ensue upon the ingestion of foreign poisons. The great clinical lessons illustrated and enforced by the very imperfect remarks which I have been invited to submit to you are these: 1. The origin of phlegmasia dolens in lying-in women can mostly be accounted for by processes springing up in her own system. 2. The blood of the recently delivered woman is in a state of highly prone to coagulate. 3. It will coagulate when it is invaded by effete materials or septic matter in undue proportion to the excretory power of the system. 4. Such undue proportion will accumulate when the free action of the great excretory organs, the breasts, lungs, liver, kidney, skin, and mucous membrane of the intestines is greatly impaired by chronic antecedent imperfection, or is suddenly checked under the influence of cold, emotion, or other form of shock. To anticipate these causes, to prepare and keep the glandular system in good working order, to prevent the accumulation of poisonous matter in the blood, is the obvious indication, one which we ought to be able in most instances to carry out. The theories or hypotheses of thrombosis arising under conditions other than puerperal must be in harmony with what is observed in puerperal thrombosis.—*Dr. Barnes in Brit. Med. Jour.—Canadian Jour. Med. Science.*

BOOKS AND PAMPHLETS RECEIVED.

Emotional Prodigality. By C. Fayette Taylor, M. D. Read before the New York Odontological Society, March, 1879. Reprint from the Dental Cosmos.

Mechanical Treatment of Diseases of Hip-Joint. By Charles Fayette Taylor, M. D. Reprint from the Boston Medical and Surgical Journal, March 6th, 1879.

Report of the Special Committee on Medical Examination, before the Illinois State Medical Society, at its Twenty-ninth Anniversary meeting, held at Lincoln, May, 1879. E. Ingals, M. D., Chairman of Committee. Chicago: C. H. Blakely & Co. 1879. Pp. 13.

Dermatitis Venenata; or Rhus Toxicodendron and its Action. By Roswell Park, A. M., M. D. Reprint from Archives of Dermatology, July, 1879.

Weekly Reports of the Bureau of Vital Statistics of the City of New York. From Dr. John T. Nagle, Registrar.

The Sanitary Problems of Chicago, Past and Present. By J. H. Rauch, M. D., Chicago. Reprint from the Transactions of the American Public Health Association. Vol. iv. Cambridge: Riverside Press. Pp. 15.

On the Connection of the Hepatic Functions with Uterine Hyperæmias Fluxions, Congestions, and Inflammations. With appendix. By L. F. Warner, M. D., Boston, Mass. (Reprint from Transactions American Medical Association, 1878). Pp. 37.

Laceration of the Cervix Uteri. By A. Reeves Jackson, A. M., M. D. Read before the Chicago Medical Society, July 7th, 1879. Pp. 25. Reprint from Chicago Medical Examiner.

Southern Musical Journal, published by Messrs. Ludden & Bates, of Savannah, has many attractions. It has among the contents three pieces of music for the September number, viz.: "Let the Dead and Beautiful Rest," song and chorus; "Sensation Waltz," by Beckett and "Three Fishers," sung by Hullah. Subscription \$0.00 a year.

Proceedings of the Alumni Association of Rush Medical College, Chicago, 1879. The Alumni Association of Rush seemed to have had a good time judging from their account of it. Besides all their pleasant entertainment, they did not forget the serious matters, as the resolutions by Dr. Ephraim Ingols shows. They propose to increase the usefulness of Rush Medical College: First. By increasing the regular annual term of college instruction to a period of not less than nine months. Second. By requiring attendance on three full terms of medical lectures as a pre-requisite to admission to examination for the degree of Doctor of Medicine. Third. By instituting preliminary examinations for students who apply for matriculation to the school, and admitting only such as have at least a thorough English education.

NORTH CAROLINA MEDICAL JOURNAL.

M. J. DeROSSET, M. D., }
THOMAS F. WOOD, M. D., } Editors.

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ORIGINAL COMMUNICATION.

DIGITALIS AS A REMEDY.

By W. C. McDUFFIE, Fayetteville, N. C.

It is by critically investigating each member of the *Materia Medica alone*, by studying its therapeutical capabilities and its physiological aspects, its remedial virtues and its remedial action, that we are *certainly* enabled to know its value in our hands as a medicine.

This broad range of study, applied to any *one* article in therapeutics requires much perseverance, ample opportunity, and close observation. My experience has been, that to know a remedy *well*, I must watch its varied effects upon the same individual at different times, its power over the same disease in different individuals, and its adaptation to kindred diseases. All this can only be ascertained to a *nicety* by testing it *uncombined*.

I say this without regard to the principle of combination which nature itself, in many instances, has taught us, as the variety of virtues contained or combined in some of his own products—rhubarb, for instance, with its cathartic, tonic, and astringent properties; but I speak of it as bearing upon the *one* remedy, which we

are endeavoring to understand fully, and while no remedial agent is truly a specific, yet for conventional purposes the designation may be useful, and it is where diseases are circumscribed, that we have little need of variety—here simplicity of treatment should distinguish the course of the practitioner.

This, by way of exordium. The agent selected for the subject of this brief essay, is “Foxglove—*Digitalis Purpurea*”—a remedy familiar, doubtless, to all of you, and yet one, I believe, that has not received at our hands the attention its virtues merit, or the confidence in its powers, that close observation will surely afford. I have taken some pains to determine its proper place in the *Materia Medica*, and if any article has been unjustly dealt by, it certainly is this, for the reputation it attained at one time, was beyond its powers to sustain and secondly the heroic doses administered by some of its rash admirers, brought a disgrace upon it, that it has *never* recovered from—and that ranks it *high* in the catalogue of toxic agents. This, I verily believe, to be unmerited. I must be excused from going into the botanical history of this beautiful perennial finger-shaped plant, and hasten to discuss its properties, suffice it, that it is a native of Europe, but grows in this country being cultivated as an ornamental plant and for medical purposes. Much depends upon the manner of its preparation. All pharmacists concur that the leaves should be gathered in mid-summer, dried and kept from light. When good, they are of a dull, green color, feeble narcotic odor, and bitter unpleasant taste.

There is a singular incident in its history, which is worth noticing. It was in the London *Pharmacopœa* in the *beginning* of the 18th century, but was omitted in 1746, and not reinstated until 1788.

Dr. Withering brought it before the profession as a diuretic, and it was, no doubt, owing to his success with it, that caused its restoration.

The properties ascribed to it by Wood, Griffith, and Ellis, *though true in the main*, are not, in my opinion, free from objection, because of the *order* in which they are given; for, whether designed or not, the inference is, that its leading property is narcotic. I object to this being understood as its chief quality, I look upon it as preëminently *sedative* and *diuretic*, its narcotic effects being manifested only when it shows its power as a poison.

I make this distinction between the two properties: *Narcotics* deaden sensibility and diminish motor-power, their full operation is upon the brain, producing sleep and coma. Opium, for instance.

Sedatives lessen the muscular tonicity and have a tendency to produce syncope, or a suspension of the functions. Blood-letting may very well be considered chief among them.

Physiologists describe the action of diuretics "to be sometimes manifested by stimulating the morbid capillaries to more healthy action, thereby preventing the undue effusion of fluids into serous cavities, and enabling the absorbent to carry back those already effused into the circulation to be discharged by the kidneys." "The blood is the natural stimulus of the kidneys and whatever it can convey to those organs, must more or less affect this natural function." Digitalis, I believe to belong to this division of diuretics operating through the vascular system; its beneficial effects being attained without bringing the system *decidedly* under its influence; hence not the narcotic but the sedative and diuretic powers were manifested.

I am convinced of its power to augment the quantity of urine in *health* and that it does not require, necessarily (as some have maintained) the "existence of dropsical effusion to render its diuretic operation perceptible," for in many instances I have given it where no disease, *save* functional palpitation from the excessive use of tobacco existed, and it not only acted as a sedative to the heart, but in every instance (where I made it a point to inquire) the urinary flow was augmented.

I began to use it in all cases of affections of the heart that came under my care, whether functional or organic. I have always adopted the plan of beginning with what I consider in the case a *maximum dose* and *decrease*, and here I will remark that in the use of this remedy for twenty years, I have never seen its full effects upon the system, or what may be called its poisonous effects, described by Watson and many others as deadly-faintness, frightful syncope, and even death itself.

True, I have been cautious and watchful, and have never carried the medicine in such preposterous doses, as are spoken of by some practitioners "from one drachm to three of the officinal tincture," &c., neither have I ever employed it, with a view to knocking down

acute inflammation, while I have more than once been alarmed at the depressing effects of *veratrum viride* in my own careful administration in pneumonia of children. I believe *digitalis* to be a powerful medicine and probably not a manageable remedy when it is given with a view to speedily affect the heart's action, which we might most desire in acute and serous inflammations. Here we may not be secure against its poisonous effects; yet Elliotson, Stewardson, Eberle, Dickson, and Dunglison speak of it as safe in much larger doses than I have risked "*after due depletion*." They are referring to it, however, in acute inflammations. It is held to be cumulative and may *suddenly* produce its powerful control over the heart. Condie, Stewardson, and others who have not made any very extensive use of this agent suggest great care in its use upon this account, but while this *cumulative propensity* "may, and doubtless does lurk in the drug," may not as much be said of other valuable—yea, indispensable medicines—mercury, for instance; and while this peculiarity makes us more cautious than we would with a remedy like tartar emetic, which we carry to what we call "tolerance," yet we may with equal impunity use *digitalis*, if we begin high, and as before said, diminish the quantity as we see its beneficial effects.

Rest is said to be the *best* cardiac sedative in hypertrophy and aconite and hydrocyanic acid are to-day more highly extolled than *digitalis* in this particular form of disease. I am, nevertheless, persuaded that more lasting benefit can be obtained from the latter, than either of the former—for *while digitalis evidently reduces, the frequency of the heart's action it does not reduce its force. It gives tonicity to the heart.*

Aconite and *veratrum*, both control the heart but they diminish its *force* and therefore require the utmost caution in their use, and I contend, are not so well adapted for general application—*ceteris paribus*, as *digitalis*, even considered in the light of a controlling remedy; but it is to its positive diuretic powers that I wish to call attention.

I have recently had a most striking illustration of this in a case of general dropsy from dilatation of right auricle and distension effecting the *venæ-cavæ*. There was such irritation of the bowels in this case as to preclude the use of hydragogue cathartics, indeed

to require the use of laudanum. Dyspnœa was great; the patient could not lie down and the swelling was rapidly increasing. The urine scant and peculiar. There was an immense deposit of the most beautiful pink color. According to Elliotson this was "purpuric acid" and lithate of ammonia. By the usual tests the urine had an acid reaction, and was tested from time to time. This was the case when I began with the digitalis, 20 drop doses, repeated every six hours. In two days I saw an improvement, in eight days the deposit was no longer found in the urine, which began to come copiously. A perceptible arrest of the dropsical effusion and the violent pulsating of the arteries at the neck ceased. The kidneys acted with a well sustained vigor. The entire anasarca disappeared in three weeks. I reduced the quantity of digitalis to 10 drops three times a day, and in two weeks longer stopped it altogether. He is now in a better condition in every respect than he has been for the past four years.

This is a striking case where digitalis shows its power over the heart and kidneys, but probably not more so, than it does in dropsy following scarlatina, where I have found *no remedy to equal it, no remedy to be compared to it.*

Here as in all renal obstructions on scanty secretion of urine, "other metamorphic processes are going on in the body, abnormal condition of other secretions, when the system becomes loaded with products of the decomposition of tissues and the blood overcharged with deleterious constituents, if these are rapidly removed from the body by diuresis, we see a hasty convalescence."

Each year brings us more or less of scarlatina, and not a few of the cases affected with its sequelæ—renal congestion and dropsical effusion—worse than the original disease; here our best and surest diuretic is digitalis. Others may and do answer the demands very satisfactory many times, but not to my liking, comparable to this, given in doses to correspond with age, &c.

Thubauer and Vogel, in their recent valuable work on "Analysis of Urine" have cited, for benefit of physicians, many remarkable cases of cures affected by the rapid action of digitalis combined with acetate potash.

Combined and alone digitalis has been prescribed by many physicians and with benefit. They state, in insomania, epilepsy, emphy-

sema, asthma, pertussis and mania, and recommended as a specific in delirium tremens," but I would hesitate using it in the doses said to be requisite to quiet the patient. This practice, I would suppose, is hazardous. Diminishing the frequency of the pulsations of the heart, as it does, no doubt, by a direct sedative power. It is said to exert the same influences over the generative organs. Of this, I cannot speak from personal observation, but we may understand its *modus-operandi* here as elsewhere, by its controlling influence over the excited movements of the heart,—in this way it may be of advantage in aneurism and possibly in various forms of hemorrhage.

I must be pardoned for reciting a case I was called to a few years ago, in an adjoining county. A youth, 16 years of age, with congenital malformation of the chest—"pigeon-breasted" as it is called—who evidently had an organic defect about the heart. His father stated that never, since in childhood, could he exert himself in play without bringing on the most distressing symptoms of palpitation.

When I saw him he had undergone a long course of treatment without apparent benefit. His body and limbs were greatly swollen; his breathing most distressing, totally unable to lie down; cough was incessant and the heart's action irregular, obstructed, and very feeble; urine scant, and really he appeared to be near his end—considering his history.

I gave him digitalis, first and last, and at the same time, beef, wine and iron. He improved; taking the remedy for six months, become able to go about the plantation, and was so much better that he quit the use of the remedies. He lived about a year, when one night, being suddenly seized with cholera morbus, he fell dead on the floor, probably from rupture of the valves from over-distension. More recently I have succeeded in entirely relieving a case of dropsy where there appeared a mere functional disturbance of the heart. Phlegmasia dolens existed at the same time. I saw her a month after her confinement. I gave 20 drops, three times a day, of the tincture of digitalis, followed by iron. She did well; recovered with no other treatment.

I have once or twice resorted to its external use, not with the success, however, of Dr. Murchison, of London, who says, that "in a case of ascites, by fomenting the abdomen with an infusion

of the leaves, seven gallons of urine were voided in the twenty-four hours." My experience with this remedy has been singularly interesting, and while I might say much more in detail, I will not presume longer upon your patience, but in conclusion I will say that while candor compels me to admit some failures with it, yet I shall still hold, that properly administered, it is our best and surest diuretic and safest cardiac sedative.

BERGH ON ANTI-VIVISECTION.

Dr. J. C. Dalton in the *Nation* of the 16th of October, shows that Mr. Bergh has reinforced himself in his newspaper anti-vivisection articles, by using the arguments from Fleming's prize essay on Vivisection, a freedom that would have been called plagiarism in a less polite age.

Mr. Bergh's quotation from Colin's "*Traité de Physiologie Comparée des Animaux Domestiques*," taken at second hand from Fleming's Essay, is made, to prove that the physiologist was opposed to vivisection. The parallel reading of the quotations shows that Mr. Bergh has greatly distorted Colin's meaning.

If the anti-vivisection war is to be transferred to this country, this beginning, we trust, is ominous of the future it deserves.

If Mr. Bergh really wants to make a sensation let him reproduce Ernst von Weber's "*Folterkammern des Wissenschaft*" with all the illustrations.

With such men as Dalton confronting him, he had as well be prepared for earnest and honest work.

We do not believe the good sense of the American public will forsake them long on this topic, although we anticipate that they will be treated to heart-rending accounts of the horrors of vivisection.

SELECTED PAPERS.

THE PRESENT STATE OF THERAPEUTICS.

An Address Delivered at the Opening of the Fifty-Sixth Course of
Lectures in Jefferson Medical School.

By ROBERTS BARTHOLOW, M. D., LL. D., Professor of Materia
Medica and General Therapeutics.

I heard, but a few years ago, a very able teacher, himself a Professor of Practice, declare that if the four great chairs of Anatomy, Surgery, Practice of Medicine, and Obstetrics were well filled in a medical school, it was of little consequence who occupied the others; and as for Materia Medica and Therapeutics, any old woman could teach that. His was the traditional old woman who knew how to prepare catnip, tansy, and similar teas, and on special occasions could administer castor oil—an amount of therapeutical knowledge sufficient now for the leaders of French medical practice, if we may credit some recent reports from Paris.

Scientific physicians have usually held therapeutics in small esteem, doubtless because it had small deservings. In Bichât's time it was a feeling of contempt, which found expression in his famous declaration: "Materia Medica is a shapeless mass of inexact ideas, of observations often puerile, of imaginary remedies, strangely conceived and fantastically arranged." No one possessed of any knowledge of the subject, could now, on examination of the therapeutics of that day, deny the justice of Bichât's denunciation. It was an incongruous mixture of empirical notions, based on the crude theories of various medical philosophies—partly humoralist, partly solidist, partly of the Italian contra-stimulant school. It embraced the mechanical and chemical theories of the great Boerhaave, the vitalistic mysticism and the expectant practice of Stahl, and the solidist theories of Hoffmann. The whole mass was hardly in advance of that condition of therapeutics against which were leveled the shafts of Montaigne, the jests of Molière, and the morbid fancies of Rousseau. In fact, it was not until the birth of modern physiology that scientific therapeutics became possible, and that epoch was at a period within the memory of men now living. It may seem almost incredible, but it is true, that any considerable

body of scientific facts in therapeutics has been the product of the last twenty years—for scientific therapeutics must always follow the course of discovery in physiology. Even now, there must necessarily be two methods pursued in advancing the knowledge of therapeutics:—the empirical or rational, and the physiological or scientific. The empirical method is based on the principle, as ancient as our art, that a remedy which has cured a case of disease must also cure analogous cases. The scientific method is the application of physiological research to ascertain the actions of medicines, and on this sure basis is predicated the use of remedies in the treatment of disease.

The inherent difficulties of the subject, it must be admitted, are in large part responsible for its tardy development. In part its slow progress is due to an unreasoning conservatism, which admits of but one road to the acquisition of truth. Even now there are many so-called practical men who are disposed to sneer at physiological therapeutics, and to make themselves unhappy over achievements which experience can utilize, but has had no agency in accomplishing. They should reconcile themselves to the inevitable by the philosophy of the old Spanish proverb: *Let the miracle be done, though Mahomet do it.* They should be satisfied with the progress of truth, though they may not approve of the means by which that progress has been achieved.

But the most vehement reactionists are yielding to the force of therapeutical discovery accomplished by physiological methods.

Thus, one of the most eminent therapeutical authorities of our day has declared in a preface written so recently as October, 1874: "In the first edition of this work the author contended against the mischievous error of seeking to deduce the therapeutical uses of medicines from their physiological action. Continued study, observation, and reflection have tended to strengthen his convictions upon this subject, and to confirm him in the faith that clinical experience is the only true and safe test of the virtues of medicines." The same author, in another work on the same subject, after another five years of study, observation, and reflection, says, in a preface dated 1879: "Whenever it seemed possible, an attempt to apply the results of physiological experiment to therapeutical uses has been made; for although the two fields of inquiry

may not be so organically connected as to render the former a guide to the latter, it is, nevertheless, true that a scientific explanation of the curative powers of medicines must be sought in the results of their experimental operation upon the animal functions."

No revolution of opinion could be more complete ; no renunciation of heresy more absolute. In 1874 empiricism is the true guide, in 1879 physiological experiment. This, though somewhat sudden, is significant of a change which is taking place in the last strongholds of empiricism. Such a quotation must satisfy the doubts of all—and they are legion—who respect authority and are governed by its utterances.

I hope I shall not be misunderstood. Far be it from me to abate one iota of the just fame of the author whose works I have quoted, or to compute inconsistency in his opinions, or to cast doubts on the accuracy of his judgments. I quote his words to demonstrate the revolution which has taken place by the application of the modern, scientific methods, with results so convincing, that the deepest convictions from wide learning and extending experience are made to yield. Honor and praise rather to the honesty of him who can render his own cherished convictions rather than to do violence to truth.

Revolutions do not go backward, and they are apt to be radical in medicine. Furthermore, it is surprising to what extent fashion rules current medical opinion and modes of practice. Do the leaders in medical thought take a certain direction, their followers pursue pell-mell. This is observable now in the revolution which has taken place with respect to empiricism in therapeutics, and in certain quarters there exists a disposition to ignore all that has been accomplished by it, and to rely exclusively on the physiological method. This extreme tendency ought to be resisted in so far as there is danger of putting aside some of our most valuable acquisitions. It is far wiser to possess us of every aid which either method can offer—to accept the scientific facts which an exact physiological research can contribute, and to retain and extend that knowledge, the truth of which has been confirmed by the experience of generations of accurate observers. In fact, when we come to investigate the subject we find that the physiological method is not free from sources of fallacy, from contradictory observations, from conclusions that

subsequent investigations show to be erroneous. I freely admit that it is less hampered and overgrown by errors and contradictions than is the empirical method, but there are uncertainties and confusion which ought, if possible, to be eliminated. The first step necessary is to have a clear conception of the sources of error, and I think we may spend a part of this hour very profitably in an attempt to measure them. The important question is: What are the difficulties in the way of right conclusions respecting the actions and uses of our remedies, especially their value in the treatment of disease?

We may certainly place foremost the imperfections of man—the limitation of our faculties. Then comes the absence of the necessary training, or its insufficiency, and the utter lack of power of logical analysis in many of those who occupy the position of authorities. These mental defects and faults of training can never be overcome. “In the conduct of life,” says Mr. Mill, “wrong inferences and incorrect interpretations of experience unless after much culture of the thinking faculty, are absolutely inevitable: and with most people, after the highest degree of culture they ever attain, such erroneous inferences are as frequent, if not more frequent, than are correct inferences correct interpretations of experience.” Such being the case, it is not surprising that in a matter so beset with fallacies as the estimation of the curative power of a remedy, that there must be few qualified by natural powers, and by training for the task. The best equipped and most carefully trained intellect may not possess the power of observation; it may be unerring in the conclusions formed from the facts submitted, but the faculty of discernment, of seeing things as they exist may be deficient or inaccurate. That which Mr. Mill calls “mal observation,” consists in “something that is not simply unseen, but seen wrong.” With the best intentions, the purest conscientiousness, men making the best observations—trained observers—differ surprisingly in their accounts of events occurring on a particular occasion. A capital illustration of this fact has been afforded by the discrepant accounts from the observers of the corona and the solar protuberances. Observed with the same instruments under the same conditions, the various operators have differed widely, with the usual result of heated controversy. An ingenious theorizer has

shown that the difference lay in the eyes of the observers; some were normal—some were astigmatic, myopic, etc. As in Turner's pictures, the artist's oddities appeared when he had lost somewhat his appreciation of the harmony of colors. Not long since Klein saw, in investigating the changes in typhoid, a minute organism which seemed to have an important relation to the genesis of this disease, and there was much enthusiasm extended over the discovery, but in a few months a terrible iconoclast disposed of the discovery at one blow, by showing that the supposed organism was nothing more than a bit of albumen, altered by the reagents used in making the preparation. How much easier to form accurate conceptions, and give correct descriptions of things submitted to the evidences of our senses, than from the phenomena arising from occult processes in the human body. Unfortunately many of those occupying the position of authorities, discern that which their preconceived opinions led them to search for; other observers look at facts with vision tinted by what Mr. Spencer calls the "professional bias;" in a variety of ways, the thing is not simply unseen, but seen wrong. The salutary lesson which we learn from this is: we cannot be sure that the things which we suppose we see are actually before us, and the other and higher lessons of patient-waiting and study of our supposed facts, and comparison of them with the facts of other observers.

If we observe correctly as to the range of utility of a medicine, we may fall into error in its use by ignorance of the natural behavior of the disease in which it is exhibited. Before any exact knowledge was possessed of the natural history of diseases, it was simply impossible to be accurate in respect to the influence of medicines over them. Before it was known that a crisis occurs in pneumonia somewhere from the fifth to the eleventh day, endless were the controversies as to the influence of remedies in bringing this crisis about. How valueless became all those discussions, carried on with such earnestness and heat, when the natural history of pneumonia was made out, and it was discovered that medicines had never produced the crisis, which is an entirely natural process. Most important additions have been made to the natural history of diseases within a few years past, and we have now a sure point of departure for the investigations of the future. I affirm this, notwithstanding

the pessimistic declaration of Dr. Andrew Clark, made before the medical section of the British Medical Association at their last meeting at Cork. He declares "that of the natural history of most chronic diseases—of their course from first to last; of the modes in which the organism, uninfluenced by drugs, and favored only by the conditions of health, deals with these maladies in their origin, in their modes of progression, in their influences upon other parts, and in their issues either in recovery or in death—we know almost nothing, and certainly not enough for the commonest purposes of therapeutic art." The wholesale iconoclasm of this address is everywhere remarkable, but in nothing has his zeal so out-run his discretion, as in these statements. I need mention but two classes of chronic diseases to demonstrate the error of his statements—the chronic cardiac and renal affections—in regard to which we know their course from first to last, and how the organism uninfluenced by drugs and favored only by the conditions of health, deals with these maladies in their origin, in their modes of progression, in their influence upon other parts, and in their issue either in recovery or in death.

It may seem a comparatively easy task to determine how far the mind influences the bodily function in modifying the phenomena of disease, but it is extremely difficult to measure the operation of a force whose nature and source are unknown, and whose powers are exercised capriciously, and without the reign of law. A curious and most interesting book, compiled by Dr. Tuke, has lately been published, in which are brought together more thoroughly than ever before the facts scattered through medical literature, illustrating the influence of mental states on bodily functions. No one can peruse this book without being strongly impressed with the uncertainty which must attend our estimate of the influence of remedies in all of those conditions of disease over which a peculiar mental force may exert a far greater curative power. Everybody has been more or less familiar with the well-attested facts which have existed on this point, but when they are brought together, analyzed, and their lesson comprehended, we are simply amazed to find that many morbid states, which medicines had failed even to modify, are removed or cured, by a force emanating from the mind. If this mysterious force moves how impossible to form a correct judgment of the share which a medicine or a plan of treatment had in the result.

When Sir Humphry Davy, then a young man unknown to fame, was employed by Dr. Beddoes to make observations with nitrous oxide, among the patients who presented themselves for treatment was a paralytic. Before commencing the inhalation of gas, Davy inserted a thermometer under the patient's tongue to ascertain the influence of the gas on the temperature of the body. The patient was greatly impressed with the mysterious little instrument, and declared, with much enthusiasm, that he felt the influence pervading his entire frame, and was already much relieved. Davy, observing the remarkable influence of hope and expectancy, did nothing more than gravely insert the thermometer day by day with surprising results, for in a short time a complete cure was effected. If Davy had administered the nitrous oxide, the case would have appeared in medical annals as a cure of paralysis by the gas.

When a *religieuse*, in Cincinnati, with prayer and fasting, and after a solemn service in which all of her sisterhood participated, threw herself at the foot of the altar and would not rise until healed—behold! an ulcer of the leg, resisting all other means of treatment—was cured by some drops of water, coming from the far-off, mysterious and sacred spring of Our Lady of Lourdes. In the one case it was a mere impression on the mind without the element of religious faith—a mere dependence on the efficacy of dumb glass; in the other a profound religious sentiment, than which nothing more powerful can sway the human heart—and yet the result is the same.

When we come to analyze the examples of diseases cured by powerful impressions, emotions, faith, hope, expectant attention—whatever the nature of the mysterious force—we find that the cases can be referred to one of two classes: to functional morbid states of the nervous system, or to alterations of structures—organic changes they are called—brought about through the agency of the trophic nervous system. Everybody is familiar with the plentiful examples of the first group, and the second needs no explanation to Philadelphia physicians—for in this city work has been done that has materially advanced the knowledge of the subject. In these two large and important groups of diseases, so much does the cure depend on merely psychical impressions, that it is difficult—often quite impossible—to determine how far the remedies employed,

contributed to the result. The practitioners of that medical jugglery who cure diseases by prayer and the imposition of hands, or by the gifts of the natural healer, understand full well the form of malady suitable for their powers. There is now in the State of Massachusetts, a preacher-doctor who cures by prayer and the imposition of hands—the apostolic method—and therefore denies to his grateful patients the privilege of recompensing him except by voluntary gifts. The pecuniary outcome of his benevolence is something remarkable, for he has now built up around him on his domain of several hundred acres, a number of stately dwellings for the reception and care of the thousands going to him from all parts of the United States. A patient of mine—a genuine Christian and a woman of the highest excellence, though somewhat credulous and a little superstitious—having heard of the wonderful cures wrought by this Massachusetts apostle, resorted to him. I had from her own lips the story of her experience. She told the great man that she was a firm believer in the efficacy of prayer, having met with many examples, and that she had come all the way from Ohio to be cured of an organic affection of the heart. When the doctor-preacher heard the nature of the malady he made a reply, in which, astonishing as it may seem, she saw no incongruity. He said: “My experience is, that the Lord rarely, if ever, interferes to cure organic disease of the heart.” Nevertheless, he expressed a willingness to try, as she had come so far, and, with hands on hers, he did pray fervently, in which she joined as fervently, for half an hour at a time on three days; but my patient experienced no relief, and came home the worse for the moral struggle which she had undergone. My client, as did all who came, it is probable, left a considerable fee in the form of a gift, and was not cured of her delusion, for she heard of numerous miracles that had been wrought there, and she witnessed on all sides the evidences of worldly prosperity; and she may have inspected, for aught I know, the arsenal of crutches, canes, and ear trumpets which these artists exhibit in proof and confirmation of their powers.

When anæsthesia by the inhalation of ether was demonstrating in the Massachusetts General Hospital, Dr. Eliottson, of London, was engaged in a far more wonderful work, teaching the great lesson, that in a mesmeric sleep surgical operations can be performed

without consciousness of pain. So zealously and completely, although in the face of much obloquy, had Eliottson succeeded in convincing sceptical and conservative London of the genuineness of his work, that the discovery of the production of anæsthesia by the inhalation of ether was announced in the *Medical Gazette* under the heading "Animal Magnetism Superseded." Up to this time the capital operations in surgery were almost daily performed in London whilst the patients were unconscious in the so-called mesmeric sleep. Although Eliottson misinterpreted the phenomena which he observed, and became involved hopelessly in the absurdities and mysticism of Mesmer, he was nevertheless engaged in the demonstration of important truths. If time would allow, I might enter more fully into that remarkable state in which there is a suspension of the methods of consciousness, and show, indeed, that the recent observations of Czermak and others on animals, is an experimental induction of the same state. It seems, indeed, that the condition of the brain in which a peculiar curative influence is exerted over morbid processes, is the opposite of that state in which the activity of the perceptive and volitional centres is in absolute suspension.

Closely, allied to this subject are the remarkable phenomena of Burqism, or metallotherapy, which at first excited the ridicule of the scientific, but which seem now likely to contribute to our knowledge of this outlying department of mental and nervous processes. The results obtained by Burq, and especially by Charcot, are such as to merit the close attention of therapeutical investigators, and must, if confirmed, enter into the question of the curative power possessed by certain remedies.

We constantly hear physicians complaining that the published results of others, in respect to the utility of a particular plan of treatment, cannot be realized in their own experiences; that, although Davy cured paralysis by the inhalation of nitrous oxide, they cannot succeed, although they have carefully observed all the conditions of the experiment. They entirely overlook the fundamental fact that one physician summons to his aid the mysterious mental force in hope, faith, expectant attention; and another represses it, not consciously to himself, by a lack of personal enthusiasm, and still more by a lack of confidence in his own powers

and in the power of his remedies—fatal defects in the character of the physician which will not escape the keen scrutiny of the anxious patient. I will not use the vulgar term “personal magnetism,” for it has no meaning, and the power is not a magnetic quality or power,—not a mysterious gift possessed by the chosen few. That which inspires a supreme, unquestioning all-pervading belief in the efficacy of the means proposed, is a reflex of the confidence of the physician—not a boastful, self-asserting egotism, not the blind faith of ignorant credulity, but the well-founded convictions of the enlightened therapist, confident in his resources from long experiences of their capabilities. “The Lord is on the side of the heaviest battalions,” was a favorite saying of the great Napoleon. I hope I shall not be understood to speak in an irreverent spirit. My purpose is to illustrate the lesson, that “God operates, not by partial, but by general laws;” that He gives us the faculties to acquire and to apply knowledge in the treatment of disease; that He does not suspend the laws of nature for our benefit; and that those cures which seem miracles are entirely human and easily explicable.

We derive from the whole subject the important lesson that we have in a peculiar mental state or condition of the great nerve-centres an extraordinary curative power in a large group of diseases, and that in this fact lies one of the greatest sources of fallacy in estimating the value of remedies. Furthermore, it must be obvious that the physiological as well as the empirical method—that both methods are embarrassed by wrong inferences and incorrect interpretations of experience.

The progress of applied therapeutics is equally hindered by the sources of error which I have pointed out. The end to which all our studies are directed as practical physicians is the application of remedial agents to the cure of diseases. An unprejudiced thinker, to whom the subject was mentioned would assert with confidence that gentlemen engaged in a pursuit requiring the use of certain agents to accomplish the desired results, would be most solicitous to inform themselves fully in respect to those agents. He would regard it as incredible that a considerable part of our profession are either indifferent or satisfied with vague notions, and that a still larger part fall into routine methods with a few agents which have to do

duty for all possible conditions. This wide-spread inappreciation, indifference, or ignorance of the actions and uses of drugs is due partly to fashion, partly to the unpromising nature of the subject. Within a few years past a therapeutic nihilism has been the position occupied by many of the most influential leaders in modern medical thought. This movement is a result, in part, of the over-shadowing importance of physiological and pathological studies. The founding of great laboratories and the brilliancy of discovery in these departments have attracted universal attention to those studies which have become the fashion. We see on every side the efforts put forth to give this direction to medical study and teaching. The desire of the time seems to be to make students, histologists, pathologists, microscopists, rather than sound practitioners, full of the humble but necessary knowledge of the practical departments of our art and science. I hold this to be a perversion of the duty of a medical school. Its first and highest duty is to instruct students, not to pursue minute researches, but to become thoroughly accomplished physicians and surgeons. No fact is more evident than that the highest order of physicians and surgeons are not men remarkable for their knowledge of microscopy, of experimental physiology, and the other branches of theoretical medical science, and, conversely, that the microscopists and pure physiologists are not remarkable as physicians, and, indeed, cannot be. The attempt to pervert the proper purpose of medical schools, and to give a merely science aspect to medical teaching is a fashion of the time, which, if it gain more adherents, is likely to do serious mischief to the cause of medical education. For young men, allured by the glitter of scientific work, will neglect the important and really more difficult attainments of true professional studies.

It is a mere pseudo-science which is misleading so many that it has become commonplace to know something about drugs and to prescribe them; the new school of pathologists and physiologists look upon the whole business of medicine given as unscientific, and therefore unworthy the attention of the higher order of medical thinkers. It is a very fascinating doctrine, that to be ignorant of drugs is to be regarded as superior to the commonplace—as being in the higher walks of medical life—and hence many make haste to adopt it, relying for the hereafter on mint-water in the treatment

of rheumatism, and similar nihilistic absurdities. The great question of the time is, does it pay? Applying this utilitarian method to the subject, I answer, it does not pay to be ignorant of therapeutics, and I prove my position by some illustrative examples selected from those recently deceased, so as not to be accused of making invidious comparison. The most successful physicians Paris, Vienna, Berlin, London, Edinburgh have had for a generation, were Trousseau, Oppolzer, Traube, Todd, Begbie—all of whom were most careful students of therapeutics, have contributed to our knowledge of the subject, and were diligent prescribers of remedies. These great men were not only successful teachers and clinicians, but had great local renown as practitioners, and each had a large *clientèle*. I beg you will not, therefore, be misled by the depreciation of therapeutics by presumed medical scientists, who are not sufficiently scientific to feel their position assured, but must manifest their superiority by speaking contemptuously of the so-called practical branches. *Sum* is sometimes taken for *habeo*, is an eccentric rule of Latin grammar which is very applicable to the affairs of modern life, and may have been, and doubtless was, strongly felt by the old Romans. To have is to be. Applying this rule to the utilitarian side of the question you may be well assured that *to have* a competent knowledge of therapeutics is *to be* a successful practitioner.

Many who have started out on a medical career with a competent knowledge of therapeutics have been disheartened by a failure to obtain the expected results. Failures of this kind arise from two causes: first, from an incorrect appreciation of what nature and art respectively accomplish; and second, from an inability to make a correct therapeutical diagnosis. The rage in our time is to make an accurate diagnosis of disease, and it is an enthusiasm to be encouraged, but there ought to be a corresponding desire to make an accurate therapeutical diagnosis—that is, to ascertain the remedy adapted to the form and character of the disease and the condition of the patient. Into this problem many complex questions enter, and he only can solve it correctly who has an intimate acquaintance with the phenomena of disease, and with the whole range of rational and scientific therapeutics.

What art, what nature can accomplish, is a wide subject which I

must merely mention. It is a singular fact that but few young physicians, comparatively, recognize the limits of remedial power. The result is that they may begin with a blind, unquestioning faith, but they end with an unreasoning scepticism.

Having now dwelt on the method and spirit in which therapeutics should be studied, as much as my time will allow, I must next say something of the manner in which it should be taught.

Confronted at the outset of his career with the subjects of *materia medica*, a student may well stand appalled. A subject which embraces the mineralogy, the chemistry, the botany, the pharmacology of several hundred articles belonging to the three great kingdoms of nature, would seem to require the undivided attention of a life given to the task. The student of medicine cannot become sufficiently well informed in these sciences to utilize them in the study of the *materia medica*, and at the same time devote sufficient attention to his strictly medical studies. The result is, he abandons an undertaking which seems to him hopeless, cuts the subject of *materia medica*, and contents himself with the fewest possible facts in therapeutics. He enters into practice with crude notions, and is given to a boundless credulity respecting the curative powers of drugs, or he cultivates sceptical dilettanteism, or becomes a sceptic, affecting a patronizing forbearance for the weakness of those who have faith in remedies. The condition to which practitioners are now reduced in Paris is gravely stated in a letter which appears in a recent issue of the *Lancet*—so gravely that it can hardly be regarded as satirical: “No wonder therapeutic scepticism is now the rule with prescribers. Thanks to the enterprise of wholesale druggists, a host of *elegant* preparations are always at hand, which relieve the scientific *clinicien* from the ridiculous absurdity of writing a useless formula. Now that diseases are allowed to run their normal course under the watchful eye of the medical naturalist, the exhibition of an inert, but *elegant* granule, must be considered a vast improvement upon the active interference of our physicing forefathers.”

No wonder that at a recent meeting (last month) of the Paris Academy of Medicine, there were loud demands for reform. No wonder that Dr. Andrew Clark, in that recent iconoclastic address from which I have just quoted, cries out that therapeutics, “the

highest department of our art, and one of its chief ends, is in a backward and unsatisfactory condition." He attributes this unhappy state of things to several causes; but the first is that *materia medica*, not therapeutics, is taught in the schools, and that there is "no physician of experience and authority who teaches the subject of therapeutics."

Where must the reformation begin? Obviously the reformation is demanded in the direction which I have indicated, and which Dr. Clark so vehemently emphasizes.

We must begin by stripping the *materia medica* of its useless knowledge. We must relegate to the botanist, to the chemist, to the pharmacist, the subject matters belonging to them, and retain those things having connection with the study and work of the physician. I can best illustrate this by an example selected from the vegetable kingdom; let it be *nux vomica*. We have first the names—botanical and chemical. Then follows the source and botanical description, which is Sanscrit to the average student, and knowledge without any use to the practitioner as such. Next comes the pharmaceutical preparations, and a description of the mode of preparing the tincture and the extracts, and an elaborate account of the separation of the alkaloids—a complexus of chemical and pharmaceutical knowledge of great utility, indispensable, indeed, to the pharmacist, but useless to the physician, who is not engaged in the business of a manufacturing chemist, and who cannot acquire this knowledge unless at the expense of his proper professional education. The best students who make the attempt to master the details of *materia medica*, acquire but a vague notion of it, and drop the study as soon as possible, except the few who expect to combine the business of pharmacy with the practice of medicine—a union which always results unhappily, and is not to be approved.

Dr. Clark complains in his energetic way that our works in this department consist of *materia medica* teaching largely, whereas they ought to be devoted to therapeutics only. This is an extreme view to which I must decidedly express my dissent. There is certain knowledge of pharmacy and chemistry which is necessary to accurate prescribing, and must be taught, if we would use our therapeutical knowledge intelligently. We must know the name of

the drug, the forms and preparations in which they are compounded, the active constituents, the doses, the antidotes chemical and physiological, but especially must we have full and accurate information in regard of the effects of the remedies and their uses in the treatment of diseases. All of this knowledge is immediately applicable to the requirements of the physician, and no part of it can be omitted without injury. I hold that the actions and uses of remedies is the point on which the greatest stress should be laid, and no information empirical or physiological, should be neglected. Let the student have the minutest information from all possible sources of the physiological powers and capabilities of a drug, its behavior as influenced by idiosyncrasy and dose, its application in the treatment of disease, the fallacies which affect a proper estimate of its powers, the special conditions in which it is useful, why it should be preferred to another remedy of the same class, and in fact any information in regard to it which may facilitate the physician's use of his armamentarium. The artisan is taught the name of the tool, the range of its uses, the mode of handling it under special circumstances; but he is not expected to acquire the mineralogy of iron and the chemistry of steel—subjects concerned with its original construction.

The information which a teacher must convey to a class is derived from two sources: from a study of the authorities who have contributed to the subject; from his personal experiences and reflections. The literature from which he gleans is a wide field and contains a multitude of workers, who differ in capacity, in acquirements, in honesty. The instructor may pursue two methods in imparting his information: he may present in order, chronologically or by subjects, a synopsis of the contribution of each individual worker; he may subject the whole to a careful analysis, weigh the merits and truthfulness of individuals, and present the results in the plainest language. The former plan confuses the student with a multitude of names and opinions that vary and are often contradictory; the latter gives him some salient points on which he may lay hold. I maintain that the latter plan is the true one—that it is the duty of the instructor to analyze the complexus of facts and opinions—to guide the intelligence of the student through a maze to right conclusions. Those who wish to engage in

investigations on their account are either advanced students or graduates, who possess the knowledge necessary to find their way through the labyrinth.

I hold, further, that the instruction should be, as far as possible, objective or demonstrative. The lecturer may content himself with stating that drugs will produce certain results—that strychnia will cause tetanic spasms, and that conia will paralyze—and he may illustrate the action of strychnia by an exposition of some famous medico-legal case, as the poisoning of Cook by Palmer, and the action of conia by recounting from the *Phædro* of Plato the death of Socrates; or he may at the moment demonstrate the effects of the drug by an experiment which makes the fact memorable in the student's mental experiences. The chemist who merely tells his students that water is composed of oxygen and hydrogen, and does not demonstrate it by experiment, will hardly have done his duty. The experiment vivifies the bald fact, and the impression made is permanent. But how demonstrate your therapeutical facts? This brings me face to face with the great vivisection question. Though an advocate for rightly conducted vivisections, I protest against cruelty to animals, who are God's creatures. I protest against those barbaric sports in which more animals suffer yearly—hunted to death—than have in all time been under the knife of the vivisector. More than all, I protest against that inhumanity to man—the outcome of an unreflecting sentimentality—which presents those scientific investigations having for their end incalculable benefits to man. Some of our most important remedies and physiological knowledge of the highest importance have been, and only could have been, obtained by experiments on animals. If animals are sacrificed for the support of men's bodies, why should they not contribute to the improvement of men's minds? Your sentimental philosopher does not reflect on the humanity of the butcher, except the toughness of his matutinal steak. Not to occupy further time with well-known arguments in favor of vivisection, I hold that the actions of drugs should be illustrated as far as practicable by experiments on animals, but the experiments must be decorous, not revolting, not cruel, and made strictly to advance or to impart knowledge for the benefit of our fellow-man. In these experiments animals have small occasion to suffer, for the medicament or the

anæsthetic so far obtund the sensibility of the centres of conscious impressions that pain is not felt.

Why torture dumb brutes by experiments, which after all cannot be utilized in the treatment of men's diseases ; for has it not been shown that the actions on men and animals differ—that rabbits eat belladonna with impunity, and pigeons cannot be affected by opium ? I might explain to you how idiosyncrasies exist in men and animals alike, and are usually more apparent than real but let me answer your objections by a quotation from the most competent authority of modern times—Claude Bernard. He declares in that remarkable work—"Introduction to Experimental Medicine" (p. 218)—that "experiments on animals with deleterious and noxious substances are very useful, and perfectly conclusive for the hygiene and toxicology of man. The researches on medicaments or poisons are equally applicable to man from the therapeutical point of view, for the effects of these substances are the same in animals as in man, except the difference in degree." This opinion, based on the largest experience, and after a career of brilliant discovery might be illustrated and enforced, if I had the time, by the examples of benefits to the race obtained in this way.

The crusade against vivisection in England, which has attained extraordinary volume and force within in a few years past, is an outgrowth of dog-worship, which has now become a form of religion in the upper classes of society. With hair perfumed, powdered, and curled, his canine worship sits at the table with his mistress, rides in the park in the afternoon, sleeps on the downy pillows at night ; he has his maid to anticipate his wants, besides the undivided attention of his mistress, and when ill he is waited upon by a celebrated physician. He makes no return to society for the protection and benefits he receives ; he pays no taxes ; he merely barks and growls in return for the love of his mistress, and is altogether an ungrateful dog ; but he has driven physiological research out of England, and the gentlemen who were engaged in an important series of investigations on the biliary secretion were compelled by him to go over to France. An epidemic of hydrophobia and the loss of several titled ladies will be necessary to prevent the apotheosis of the dog, and to put vivisection in its proper position—for a cure for hydrophobia can only be arrived at by experiments on this at present distinguished member of society.—*New York Medical Record.*

ONE HUNDRED AND FIFTY CASES OF TYPHOID FEVER.*

By C. ELLERY STEDMAN, M. D., Visiting Physician to Boston
City Hospital.

The object of this paper is to offer some practical observations on one hundred and fifty cases of typhoid fever treated in the beds on the south side of the medical wards of the City Hospital during the last three months in each of seven years ending with the 31st December, 1877. It is hoped that they may have some interest for others beside the observer, although there is little new to be noted in traversing ground so well trodden; and the number of cases is too small for generalization of much value. The experience will be given, uninflated by fancies or quotations, for what it is worth.

Some of these cases entered in the last five or ten days of my predecessor's term, but have been considered here if the patient were mainly treated by me. The few subjects of this disease who enter in December have been reckoned if the height of the fever were passed before my relief came on duty.

The *causes* of typhoid fever cannot be studied in these examples, which come from every part of the city and from all sorts and conditions of men. They are often poor people whose friends and doctor are worn out with the incessant care needed by the sufferer, and which cannot be given. Many have frightened all who have to do with them by the fury of their delirium, and are sent to the hospital to die; while some come from crowded hovels, which contribute more than one case. Others are clerks, mechanics, or servants of houses in the best situations. One maid came from Nahant, from a family, who, of course, paid their taxes in Boston. Of late years tramps furnish an increasing contingent, as would be expected from their growing numbers. The source of the disease influences the result but little.

It is denied by the best authorities that fatigue, emotion, or destitution have to do with the ætiology of the disease, and the custom of the day is to class it among "filth diseases." From the vague stories gathered from hospital patients and their friends, it is impossible for the physician to form an idea of the origin in most of

*Read before the Boston Society for Medical Observation, May, 1878.

the cases admitted. In other than hospital patients it has not been made plain to me that all cases are to be referred to the poisoning of air and water with excrementitious matters. In London, increase of typhoid was contemporaneous with the completion of the main drainage scheme in 1865-1870. (Murchison.) As has been remarked in this society, typhoid fever was seldom seen in Dorchester (where the writer lives) except in the southern border, along the Neponset River, and our cases of this disease were almost all imported. There was something of an epidemic when Cechituate water was introduced without any system of drainage, and the old roads were dug up in all directions. Since that time, six or seven years ago, the tendency to fever has lessened, and last year there were scarcely any cases.

Contagion is not a cause of the fever. One fatal case was that of a woman who had nursed a sister through the sickness. On the other hand, in these seven years there are found among the one hundred and fifty but four hospital servants with the disease, and only one of these (Ferris, aged fifty) was in attendance on fever patients. In five years at least no house physician or surgeon has taken fever. This disease resembles most contagious disorders in usually exempting from subsequent attacks, and when a feverish patient says he has had just such an illness before he is closely examined for evidence of tuberculosis or other malady. Large families are known in which fever seems never to occur, but it is a sickness which almost every one in New England has in childhood or youth, and its causes, except in certain epidemics, are yet to be determined.

We consider that long, hot, dry summers keep the doctors busy. We know that long, cold winters breed sickness, as mild winters do not, as most of us have found to our cost in making up last quarter's accounts. The weather records do not conform to our ideas as they should in regard to the relation between hot, dry summers and fever. The greatest number of typhoid patients admitted to the hospital was one hundred and sixty-three in 1872, when (according to tables furnished me by my friend, Dr. E. T. Caswell, of Providence) the summer was hot and wet; the smallest number, eighty-seven in 1876, which year will be remembered as hot in June and July, and cool in August and September, while the rain-fall was about the

usual average. One hundred and fifty-eight were admitted in 1873, which was cool, with average rain-fall. It is not impertinent to note that patients and their friends often ascribe the illness to a definite cause: exposure to foul gases, as in opening a cess-pool, exceeding anxiety, but especially to heat, cold, or wet, sleeping out-of-doors, or watching at night.

CASE I. D. F., ward-master, aged fifty, was devoted to the fever patients. Five days ago, tired, pains, chills, fever, headache, slight abdominal pains, slight cough, mucous expectoration. Now, bad headache, pain in joints, tympany, gurgling. Urine normal. Sixth day better. Seventh, "decidedly" better. One doubtful rose spot. Constipated four days. Oleum ricini, one drachm, every four hours until operation. Milk. Sponge bath. Dover's powder. Eighth, three dejections. Soreness of abdomen. Sherry, three ounces. Ninth, tremulous. Tenth, Cheyne-Stokes respiration. Eleventh, retention. Twelfth, di-d. No autopsy.

CHART I.

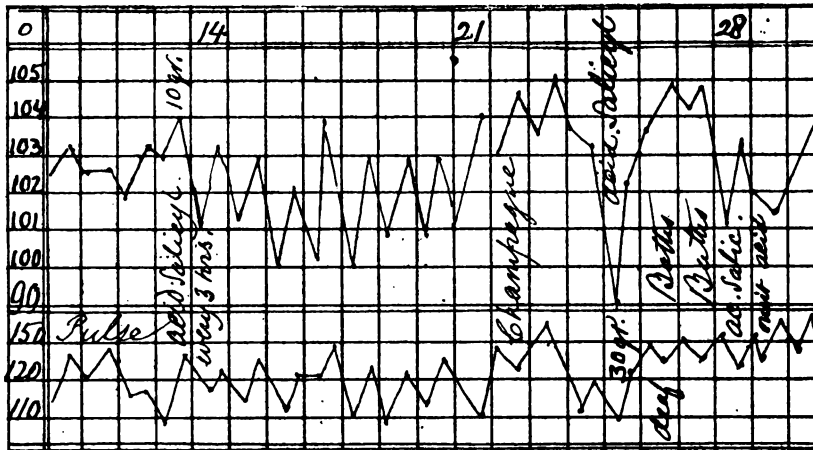


The incubation of the disease, we, of course, have no chance to watch. The writer remembers his own wretchedness for nearly a month with the prodromata of the fever. In the case of the ward-master, Ferris, he affirmed that he was well until four days before he was put to bed. Our patients have to keep about their work usually a week or more before going to bed. All of us have seen cases so mild that the patient could walk about, and even do business. I saw a young man two years ago who could be kept at home only a day or two, and went to his store daily with a high temperature, headache, and diarrhoea. It is thus difficult to appreciate the length of the fever. In these cases we have tried to reckon from the initial chill, when one was reported.

Diagnosis is not touched upon in this paper. Our patients are mostly admitted after five, seven, or more days' illness, when its character is generally settled. Acute tuberculosis and meningitis simulate typhoid oftenest. The *age* of patients does not differ from the usual observations, adults and old people being less liable to this

fever, because, for one reason, so many have had it once, even, perhaps, so mildly that it was not recognized. *Diarrhœa* is recorded in but thirty-five per cent. of all the cases, and in nearly all the fatal ones. This rate is lower than is generally quoted; the writer's experience would make it about fifty per cent. in this neighborhood. *Vomiting* happened in twenty per cent. of all the cases, and has no special significance as an early sign; but when it comes on in the course of the fever, it must be questioned if it means over-feeding, peritonitis, or nephritis. *Cough* was noted in only eighteen per cent., the physical signs, if any, being those of bronchitis; pneumonia, pleurisy, and cardiac disease have representation in small proportion. *Delirium* was present in the fatal cases, and in nineteen per cent. of the recoveries. *Rose spots* are recorded in thirty-two per cent. (They have been observed in diphtheria, in non-febrile cases, and Jaccoud reports them in a case of acute tuberculosis.) Children and elderly people, as a rule, do not have them. Blue maculæ (*tâches bleuâtres*) in three cases, one fatal. *Sweating* in ten per cent. *Rachitic pains* in fifty per cent. *Epistaxis* in twenty-one per cent. The highest pulse recorded in a case of recovery is 160 on the fourteenth day, the fever turning eight days after. The highest temperature was in a man (aged forty-four), of 107° F. on the eleventh day, when his pulse was 109, the fever abating on the thirty-eighth day. The usual termination of the febrile action is by gradual fall, as is well known, but in a large majority of cases there is some day when the temperature drops two or three degrees to the normal standard, and you will see in some of the charts a fall which may be termed a crisis or defervescence, in one severe case of eight degrees.

CHART II.



CASE II. Lizzie C., aged twenty-two, single. Fifteenth day, salicylic acid, ten grains every two hours. Nineteenth, deaf. Twenty-second, champagne. Twenty-third, countenance good; intelligent, but deaf; two or three dejections daily. Twenty-fourth, salicylic acid, ten grains every three hours, reduces temperature 4.5° F. Twenty-seventh, salicylic acid lowers temperature 3.5° F. Twenty-ninth, acid vomited. At 3 P. M. temperature 104.2° F.; tub-bath at 100° F. cooled

down to 80° F. when patient became restless; temperature lowered to 102.4° F. At 10:15 another tub-bath cooled to 74° F. in ten minutes reduced temperature from 103.6° F. to 102° F. At 2:10 temperature 104° F., pulse 130; reduced by bath to 102.2° F. and 120. At 5:15 temperature 104.4° F., reduced by bath at 7:20 o'clock to 100.9° F. Thirty-first, stopped baths. Quinine, ten grains at one dose. November 4th. Taking brandy, sixteen ounces daily. Involuntary micturition. Thirty-eighth, subsultus. Last night collapsed; heaters to body; brandy subcutaneously. Has eighteen pints of milk and twenty-four ounces of

brandy daily. Urine specific gravity 1024; urea increased; no albumen. Discharged well on the one hundred and tenth day.

In the case of Lizzie C., this case was denoted by a fall of four and a half degrees, accompanied by collapse, when her life was saved by the indefatigable attention of Dr. Otis, then the house physician. The abatement of the fever happened in one case (with rose spots) on the seventh day.

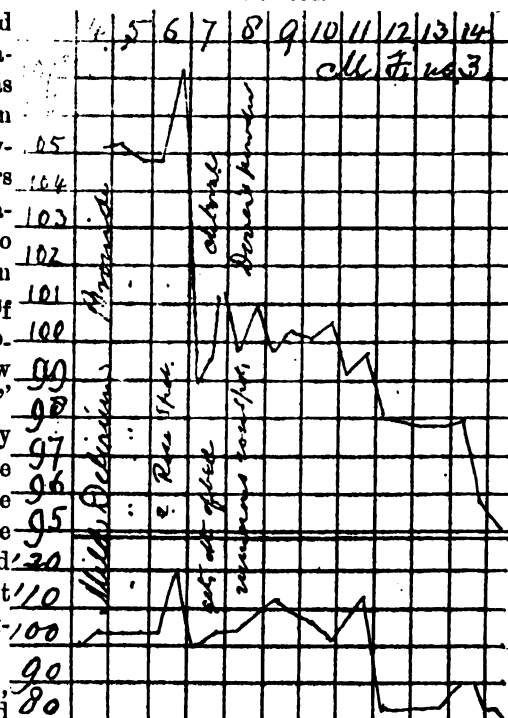
The same fall is shown in Case III., M. F., aged seventeen, a private patient, where the fall was over eight degrees; in another, on the fifty-third day, while others had still longer duration. The range is so great that striking an average gives no idea of the truth, and the popular notion that "slow fever runs three weeks" is as nearly right as may be; but in telling the family of a patient the probable duration of the disease we have to guard against disappointment in those cases that exceed due bounds.

CASE III. May F., (private patient), aged seventeen. High temperature, low pulse. Fever ended on the twelfth day.

Quite a number of patients had tonsilitis. One fatal case resembled diphtheria. Dr. Green has examined the ear of deaf patients, and has found all stages of inflammation in different cases. The proportion of these complications and of those having retention has not been noted.

A point worth mentioning is the frequency with which highest pulse and temperature occur in the milder cases at the time of or

CHART III.



the day after admission ; often the highest temperature on the day of entrance, and highest pulse the next day. This is owing to the moving and excitement of the patient, and points a moral in the need of quiet for a fever case. The length of time patients stay in hospital is a matter of no value to us, except as tax payers, although given in some tables, for so many are retained days and weeks after recovery because they have no home to go to, or can be useful by light work in the wards.

The question of *mortality* now claims our attention. Of the 884 cases of typhoid fever admitted to this hospital in seven years, 154 died, or 17.42 per cent. Murchison's table give the average fatality in the London Fever Hospital for twenty-three years as 17.26 per cent. ; in fifteen other hospitals 17.45 per cent., that is, one in every 5 $\frac{1}{2}$ patients died. There are also reported 195 cases of febricular and a few of simple continued fever for these years, and if any or most of these can be considered mild or aborted typhoid (if there be such a thing) the results would be modified. In 1876, when typhoid was infrequent, only ten per cent. died. In 1872, which shows the most cases, the mortality was twenty per cent., confirming the dogma that when typhoid rages widest it rages worst. In the years when diarrhœa is most often a symptom are the most deaths. Some years it happens, in allotting patients, one physician gets most of the fever cases with diarrhœa, while his colleague is assigned the constipated ones, who furnish few mortal issues. But these inequalities balance in a few years.

In our 150 cases there are 19 deaths, or one in 7 $\frac{1}{2}$, or 12.6 per cent. The discrepancy between this table and that of all the cases treated in the hospital is owing to the small number of observations, as the results would be nearly evened in the multiplication of cases. Again, the last three months of the year (the writer's usual service), though furnishing most fever patients, is not the fatal season ; as in all epidemics the worst comes first, and we notice that the cases in the hotter months of July and August, though fewer, are shorter and more intractable. Thus in 1871, during a service of four and a half months from the middle of August, there were eight deaths out of the thirty-seven cases on the south side, of which six were between the 15th of August and the 1st of October. Again, in 1874, there were twenty-four cases and three deaths, two in

September and one on the 26th of October; but the term of service was only eight weeks, from 15th of September to 15th of November, when Dr. Borland refunded time loaned. Eleven more cases entered before 1st of January, and all of these recovered. The showing would, of course, be much more favorable, if we could evade the numeration of patients moribund when admitted.

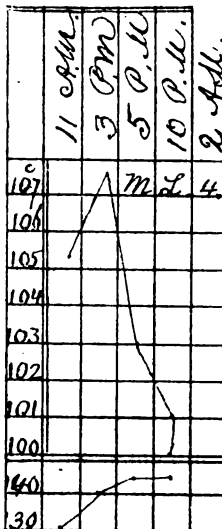
CASE IV. Michael L., laborer, had a chill on being put to bed on entrance. Livid. Abdomen distended, painful in right side; roused quickly when addressed. Said he had been ill four weeks; then incoherent. Twelve M. Groaning; subsultus; two involuntary thin stools; crying out wildly; hand seeks right iliac region; when on side lies with knees retracted. Three P. M. Less congestion in face, and left hand and arm, but still in right; pulse less strong in latter. Lungs: backs flat at bases on percussion; crepitant râles. Front: right apex dull; loud sibilant and sonorous râles pervading. Right side: fine râles. Heart sounds distant, muffled. When addressed, wild, incoherent cries; decubitus dorsal. Cannot swallow. Four P. M. Congestion greater. More quiet. Died at two A. M.

Autopsy. Both lungs very firmly adherent. At right apex thickening and a few specks of cheesy degeneration.

CHART IV.

Both lungs, but mostly the left, congested posteriorly at the bases; parts of both lungs, float. One ounce and a half of serum in pericardium; over right auricle roughness from old deposit. Abdomen, eighteen to twenty ounces sero-pus; much gas; surface of small intestine and colon much congested. Lymph on liver and abdominal wall; some feces in abdominal cavity. In lower part of small intestine, for three and a half to four feet, Peyer's patches and solitary glands enlarged and in places ulcerated; one ulcer had eaten through all the coats, and the base was covered by peritonæum only. Another ulcer at very uppermost limit of disease had perforated, and feces escaped through a hole one-eighth of an inch in diameter.

I am compelled to pass over the consideration of relapses, which have been few, none fatal (the writer has never seen in hospital or other practice a patient dying in relapse of typhoid fever); nor is there space for consideration of complications and other most interesting questions. I call attention to a few cases remarking that a number of autopsies is very small, and no attempt will be made to discuss the pathological appearances.



The history of the H. family is worthy of record. In 1871 the traveler on the line of the New York and New England railroad saw to the east, on the marsh, just after crossing the arm of the bay over which the track runs, several lines of two-story houses, innocent of a horizontal or vertical line in their dilapidation. Their foundations were laid in trenches two feet deep, in which planks were lowered; on these planks the underpinning was laid, and the structures reared. These tenements drained into open ditches, where the tide ebbed and flowed; in a heavy rain or high tide the cellars were filled. The city had forbidden these cabins to be used for habitation, but in September, 1871, there were brought to the hospital from this place Mr. and Mrs. H. (New Englanders) and five children, sick with fever: all recovered but Ella Jane and Laura Etta, whose cases I give. Charts were not in common use in the hospital at that time:

Typhoid Fever: Ulceration of Gall-Bladder.—Ella Jane, aged thirteen. September 19, 1871. Four weeks ago, headache, backache, tinnitus, diarrhœa. Took to her bed two days ago from cramps caused by baked beans, which pains have continued; cough began the same day: tender abdomen; rapid emaciation. On entrance, pinched and pale; eyes sunken; skin warm; abdomen dusky, tympanitic, distended, its superficial veins swollen. Hacking cough. Lies on back; knees drawn up, but she can extend them. September 31st. Diarrhœa less, abdomen not so tender, no cramps. September 22d. Died.

Autopsy in six hours, by Dr. Webber. Abdomen holds a pint and a half of yellowish serum, with much lymph; liver large, fatty, anæmic; intestines covered with lymph and loosely glued together; omentum much congested: mesenteric glands enlarged. In large intestine, solitary glands congested, and at upper part ulcerated; in small intestine, considerable ulceration of Peyer's patches, as also in lower three or four feet. Most inflammatory action in region of the gall-bladder, which was glued to the colon at junction of ascending and transverse portion. Fundus of the gall-bladder ulcerated, and small sacs seen, with bridges of mucous membrane dividing them; the adhesions being torn away, one sac was found ruptured, but it was hard to say whether this happened or not during life. No gall-stones, but thick bile in the sacs.

Laura Etta, aged six. September 22, 1871. Well until six days ago, when she began to mope, and vomited at intervals; slight diarrhœa for a day or two. Abdomen tympanitic. Vomiting continued; no rose spots; now no diarrhœa. Pulse from 120 to 138; highest temperature 101° F. Died on the 10th of October.

Autopsy. Extensive adhesion of peritonæum to the liver and

gall-bladder, through which were three ulcerations, as well as ulceration of its whole inside lining. One pint of sero-pus in the peritonæum. Liver pale yellow, fatty. Mesenteric glands enlarged. Peyer's patches of two and a half feet of small intestine not at all ulcerated and very little enlarged. Solitary glands not enlarged. Kidneys normal. Spleen firm.

In this connection note the case of James, aged sixteen. Returned well from a visit to Portland three weeks ago. One week after he began to feel sick; chilliness, vomiting, headache, tinnitus. On admission, diarrhœa. The liver enlarged, and below it a rounded tumor in the region of the gall-bladder, where only there is marked tenderness. Next day, pulse in the evening 104, respiration 36, temperature 104° F. Fourteen days after admission the record runs: "The tenderness in region of the gall-bladder is considerably diminished, but as other members of the family have died with perforation of the gall-bladder there is reason for anxiety." But the patient made a good recovery, and was discharged well. Similar cases are reported by Murchison (patient aged nineteen), Barthez and Rilliet (aged twelve), Budd, and others.

I submit the charts and fatal cases of (V.) F. Whall; (VI.) Mary E. T.; (VII.) Mary C.; (VIII.) T. J. D., showing short durations after admittance; (IX.) Fred M., high pulse, and not remarkable temperature at first; (X.) Frank D. W., who appeared to die without known complication.

CHART V.

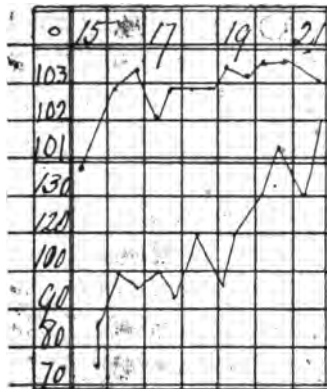
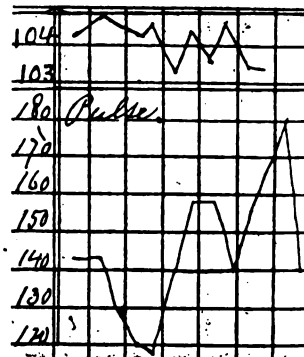


CHART VI.



CASE V. F. W. Typhoid fever; fatal. Two weeks ago, chill; pain in left chest, increased by deep inspiration; cough; no sputa;

severe headache ; diarrhoea ; deaf ; dull ; abdomen distended, tympanitic, painful ; rose spots, *tâches bleudtres*. Sixteenth day, delirious ; more diarrhoea ; tympany. Nineteenth, less diarrhoea. Died twenty-first day. No autopsy. (See Chart V.)

CASE VI. Mary E. T., aged nineteen. Duration of disease unknown ; fatal. She has been on Calf Island during the summer. Pain in head, *nucha*, spine and abdomen ; no diarrhoea until three days ago ; very weak ; has come to the city twice during illness ; cough ; severe pain in left hip and shoulder ; emaciated ; sordes ; anxious ; tongue hard and dry. Third day in hospital, delirium ; feeds poorly ; bears stimulus, but sinks steadily. Died sixth day after admission. No autopsy. (See Chart VI.)

CASE VII. Mary C. Typhoid fever and pneumonia ; fatal. Three weeks ago, rachitic pains ; epistaxis ; cough, without expectoration. Went to bed three days since ; no chill, diarrhoea, nor delirium. Now, prostrated, cannot move ; respiration 50 ; face dusky ; sordes ; ecchymosis of the conjunctiva, right eye ; listless ; abdomen tender, tympanitic ; rose spots. Tub-bath. Brandy, ten ounces. Milk and lime water. Twenty-third day, singing and talking. After three tub-baths and two pints of champagne more quiet, and inclined to sleep. Tubular respiration ; very fine crepitant râles in both backs. Quinine and digitalis ; jacket poultice. Twenty-sixth day, died. No autopsy. (See Chart VII.)

CHART VII.

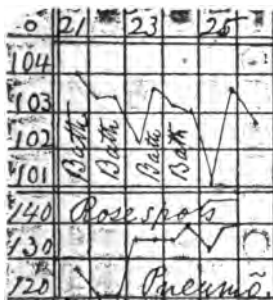


CHART VIII.

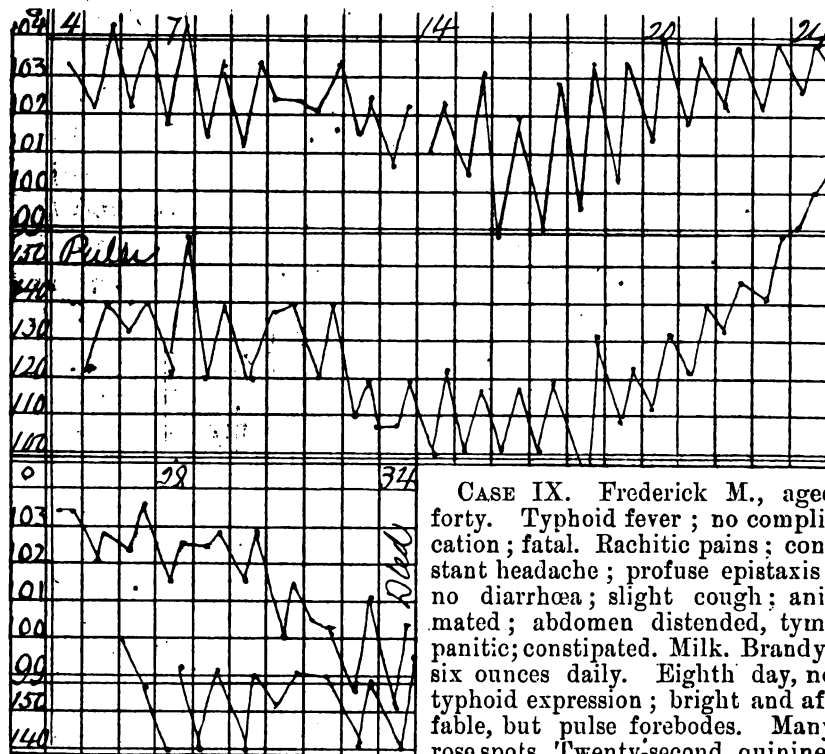


CASE VIII. Thomas J. D. Typhoid fever ; cardiac complication ; fatal. Five days ago, nausea ; chills ; rachitic pains. No diarrhoea, cough, epistaxis, nor abdominal pains. Now, tired, hot, thirsty ; cracked and dry tongue ; mind clear. Milk. Tub-baths. Sherry, six ounces. Eighth day of disease, epistaxes. Ninth, bath out of order. Quinine, ten grains every hour for four hours. Eleventh, worse. Twelfth, dullness at apex ; coarse râles ; harsh, purring, presystolic murmur taking place of second sound ; marked heaving of chest wall, and a distinct thrill perceptible to hand at apex. Thirteenth, died. No autopsy. (See Chart VIII.)

Only one of these cases is noted as having *intestinal hemorrhage*, and the symptom is recorded only two or three times. Of late years no hemorrhages have been reported. They are said to occur once in two hundred cases (MacLagan.) Their fatality is not so great as used to be thought, and the worst case I ever saw was a neighbor of mine, who was blanched and collapsed by loss of blood, but made a good recovery.

Leaving important topics, which the scope of a paper like this will not permit us to glance at, I have a few words to say about the temperature and pulse. In reading cases published at this time one finds sometimes the pulse not even referred to, and the temperature made the indication for treatment, diagnosis, and prognosis. For diagnosis it is invaluable. For guidance during the disease I rely on the pulse.

CHART IX.



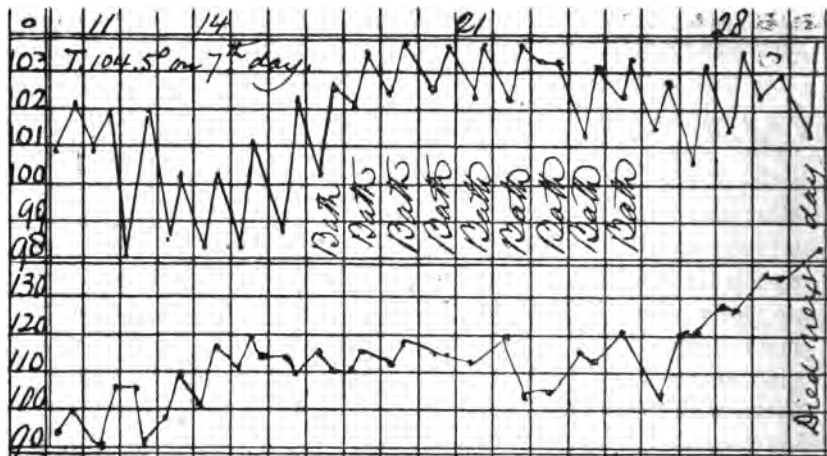
CASE IX. Frederick M., aged forty. Typhoid fever; no complication; fatal. Rachitic pains; constant headache; profuse epistaxis; no diarrhoea; slight cough; animated; abdomen distended, tympanitic; constipated. Milk. Brandy, six ounces daily. Eighth day, no typhoid expression; bright and affable, but pulse forebodes. Many rose spots. Twenty-second, quinine,

ten grains. Twenty-third, champagne, a pint. Looks well. Twenty-fifth, weaker. Champagne, two pints. Twenty-sixth, diarrhoea; brandy,

eight ounces. Twenty-seventh, muttering delirium; takes milk and beef tea well. Twenty-eighth, thin soup and pap. Thirty-first, no diarrhoea; increasing prostration. Thirty-fourth, died. No autopsy.

In these seven years the pulse has given the warning of approaching trouble, even when the temperature has signified nothing untoward. Patients die of typhoid with slow pulse, but none of this series of one hundred and fifty has done so, nor have I seen any other case become fatal with a slow pulse. For a practical indication derived from individual experience I have to believe in the signals thrown out by the artery in the wrist above all. I have seen no patient die whose pulse has not reached 120, twenty-four or more hours before death. Cases come in unconscious, who can give no account of themselves, delirious, passing everything under them, with the thermometer in the axilla 105° F., with slight morning remissions, but if the pulse keeps at about 100 to 110 they do well. High morning temperatures are suspicious, but if they mean mischief the pulse creeps up with them. One who has seen much of the disease will anticipate a rise of the pulse as much from other signs as from the temperature. I am by no means depreciating the value of this indication, but am sure that students come to rely on it too much. The chart well prepared for the morning visit, with temperature, pulse, respirations, and dejections noted, gives assurance to the glance at a patient that is of inestimable usefulness, and saves a world of talk and time in the wards. A range of pulse from 110 upwards, it is needless to say, is often followed by recovery. In 1871, out of 29 cases of recovery seven had the pulse at 120 or more, for a greater or less time. In 1872, when the thermometers appeared particularly well up to their work, the temperature reached 104° F. and 107° F. in eighteen out of twenty-three recoveries; the highest pulse counted from 120 upwards in only four cases. The influence of certain conditions in shooting up temperature and pulse at the beginning of convalescence is odd. Sitting up half an hour in one case raised the needle three or four degrees. Several patients have gone out well with a pulse at 120. One girl lived in a family where I was attending, and I had thus the advantage of watching her for some time. The symptom disappeared as she went on with her work.

CHART X.



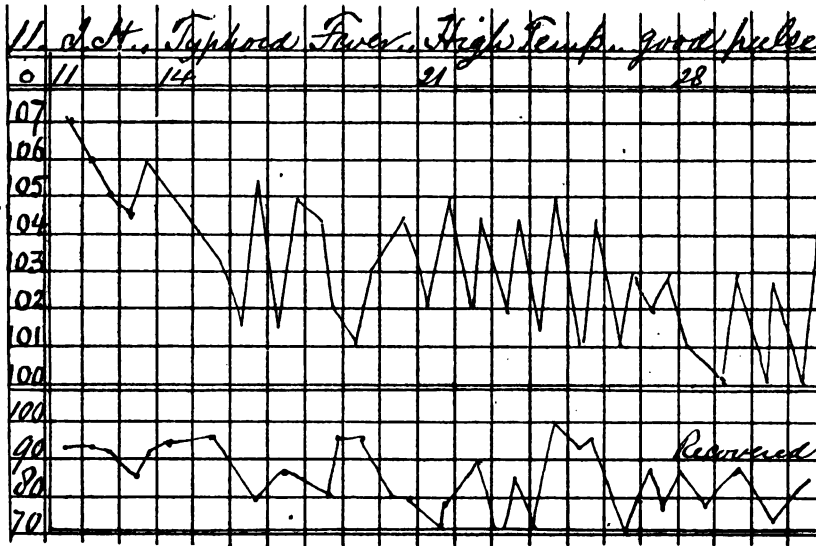
CASE X. Frank D. W., aged twenty-three. Typhoid fever; no known complication; fatal.

Headache, epistaxis, no cough, bad diarrhoea, much tympany and pain, delirium. Temperature 104.5° F. on seventh day. Seemed to be doing fairly well, although the fever was profound until the twenty-ninth day, when respiration became hurried, with tendency to cyanosis. Responded to treatment, temperature falling from 104.8° to 102° F., and pulse from 144 to 130, but collapsed on thirty-first day of the disease. No autopsy.

In these one hundred and fifty cases the treatment has not been the same, the use of stimulants being invariable in severe cases. In 1871, with its thirty-seven patients and eight deaths, hydrochloric acid was uniformly used, and to some extent in 1872, when cool sponging was employed, with two deaths out of twenty-five cases. In 1873, when there was no death in thirteen cases, no fixed line of treatment was adopted, but sponge baths and stimuli in the worst cases. In 1874 the German plan of cold tub-baths was put in practice with some regularity, which, since the completion of the new wards in the last two years, has been perfected. In 1874 there were three deaths out of twenty-four cases; in 1875 four deaths in twenty-five; in 1876 one death in thirteen; in 1877 one death in fifteen. In these four years the mortality has been 11+ per cent. The two fatal cases in 1876 and 1877 were moribund when admitted, though one lived mysteriously several days longer than was supposed

possible. In the years 1871, 1872, 1873, there were seventy-five cases and ten deaths, a percentage of 13½. Three, at least, of this ten could be fairly described as dying when they came in.

CHART XI.



CASE XI. J. H. To show high temperature, with a range of pulse so low as to allay anxiety.

With regard to the use of *cathartics* it is noticeable that most patients who enter the hospital have been purged, very many in a drastic-fashion, with no special untoward result. In the case of ward-master Ferris a drachm of castor oil was given (by his own desire) for constipation, followed by three dejections. The next day he complained of soreness; pulse and temperature rose until the fatal issue in five days after. A grave prognosis from his occupation as ward-master, with his age of fifty, had been made. He never would have recovered, but it is wished that the oil had not been given.

The use of *stimulants* is regulated by the state of the pulse; if the beats are growing in rapidity and losing in strength, if they pass 110, 115, 120, a half ounce of spirits or a glass of champagne is given. If there be from any cause doubt of the need of alcohol

in a rising pulse, the doses is given with the finger on the wrist, and the influence of the drug on the circulation marked. If the pulse steadies or slows, the wine is repeated on its rising. In the case of Lizzie C. you will see that twenty-four ounces of brandy were swallowed daily for days together, during which time the face did not flush, the eyes were not suffused, the speech thickened, the tongue loaded, nor the mind clouded. Some fever patients cannot be made drunk by all the alcohol you can pour into them, while others do not bear champagne in small doses.

CHART XII.

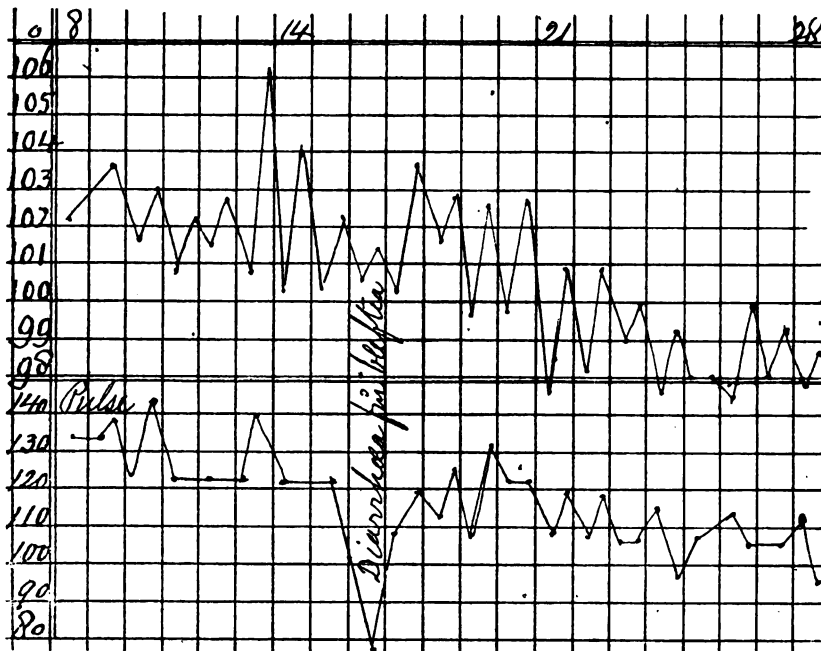


CASE XII. Joseph B., aged 22. Typhoid fever, with alarming nervous symptoms, but good pulse. Admitted October 10, 1877. Unconscious, with no history. Eyes shut; if aroused, refuses food; inclined to indefinite self-accusation; abdomen flat, very tender, gurgling; rose spots. Twelfth day, active delirium. Twentieth, noises in head. Tub, twenty-fourth, reduced temperature from 104.6° to 98° F. Twenty-ninth, delirious; wants to rush about. Camphor one grain, opium half a grain, every four hours. Tub in evening. Looks ghastly. Thirty-first, no delirium. Amount of stimulus not recorded. Not until November 11th did he seem to "take notice."

I know very well that twelve ounces of spirits daily is said to be all that the worst case needs, but this limit is constantly and necessarily exceeded with favorable results. As the fever abates the amount is gradually lessened. The reason hard drinking like this

does not make drunkards is that patients so ill as to need this heroic stimulation have their senses so much blunted as not to know whether they are drinking brandy or beef tea. When the need departs the natural indifference or distaste returns. A medical friend tells me that during his fever and convalescence he had a craving for alcohol that could hardly be satiated, and its use never affected his head. One day, on the return of health, he suddenly lost the desire, which never re-visited him, except in a normal and decorous manner. Of course stimulus given when it is not needed has its usual effects. A girl was admitted one morning with high fever and rose spots, whose aspect and history did not agree with the extreme temperature and pulse. She had been treated with stimuli from the onset of the fever. All wine having been withdrawn, the pulse and temperature dropped at once to a range indicating a mild though undoubted course of fever.

CHART XIII.



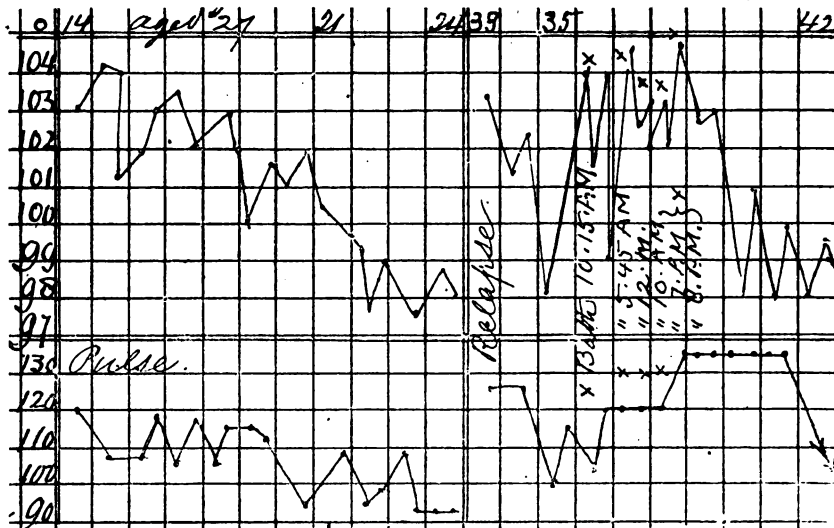
CASE XIII. Alexander M., aged twelve. Typhoid fever, with high delirium. Fought against baths, and was treated by stimu-

lants,—brandy, twelve ounces daily. Recovered, with contraction of right knee and elbow. Beef tea, given on the fifteenth day, produced diarrhoea, which lowered the pulse from 120 to 76. Sixty-three days in hospital.

Quinine and salicylic acid have been used with good effect to lower the temperature and pulse, of which, as you see in the example of Lizzie C. (Chart II.), twenty grains of quinine or thirty grains of salicylic acid are given in two doses, the latter an hour before the usual time of rise of the thermometer and pulse. Either reduces the temperature two or three degrees and the pulse five or ten beats, subtracting so much from the waste going on. I say no more of these drugs the action of which has been demonstrated, but pass to the experience with the baths.

The tubs in the new wards of the City Hospital are so arranged that a walk round each is afforded, and the labor of giving a bath greatly simplified. The patient's bed can be brought along-side the tub; he is lowered on the sheet into the water if he be feeble, with

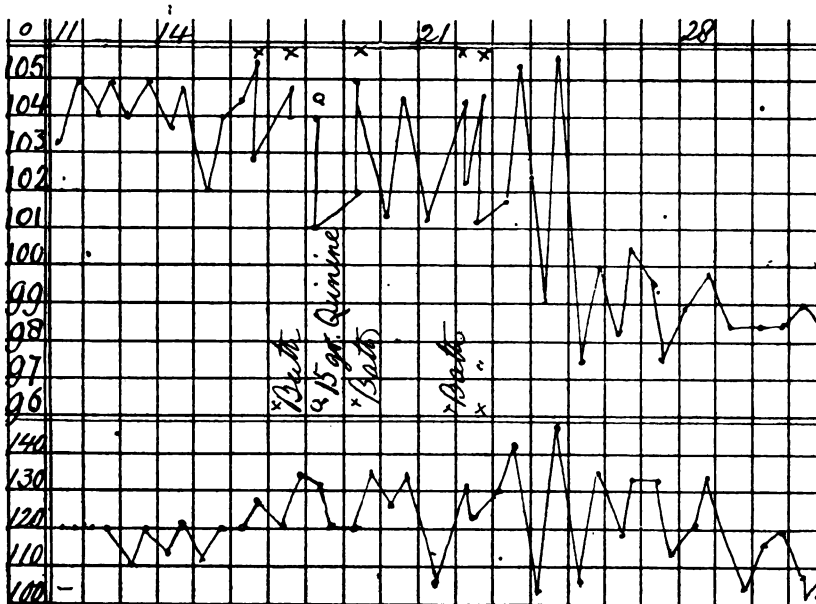
CHART XIV.



CASE. XIV. Josie B., aged 27. Typhoid fever. Relapse. Baths. Recovery. Rachitic pains; rose spots; deaf; stupid. Sat up twenty-sixth day. Thirty-third, relapse, with diarrhoea; deafness. Thirty-seventh, lips parched; sordes. Brandy; tub-baths. Fortieth, defervescence.

the minimum of exertion. The orders are to give a bath when the temperature reaches 103° F. and the pulse is above 110, the water to be at 100° F., and lowered by a bit of hose on the cold-water tap to 80° or 70° F., ice may be used to effect this. If he shivers, take him out and give him half an ounce of brandy; if he does not, keep him in ten to twenty minutes, when his temperature will have dropped two or three degrees, or will do so in an hour after, and the pulse lowered some ten or twenty beats. If the pulse does not come down, you may doubt if your baths are doing good; but if the patient enjoys them, as he often does, I have seen no harm follow. The febrile action will then begin to increase, and in two hours more another bath will be needed, and perhaps another. Some patients fight the baths so as to antagonize their benefit, when

CHART XV.



CASE XV. Katy L. aged twenty. Typhoid fever; high temperatures and pulse. For ten days rachitic pains; diarrhoea; vigilance; abdomen full and tender; rose spots; deaf, but mind clear; slight tympany; three to five dejections. Twenty-first day, delirium; tongue hard, dry, brown; respiration jerky, but pulse better. Marked fall of temperature and pulse after baths. Defervescence (eight degrees) on twenty-fifth day.

they are relinquished, and we have our alcohol to fall back on, with good results, as in the case of Alexander M., 1877. See Chart XIII.

I close by following the course of treatment after the admission of the patient, and getting his history, if it can be extracted from him or his friends. Perfect quiet is insisted on, and the least kneading of the abdomen, tapping at the chest, vexing with questions, changing of linen, and fussiness that human nature will permit. In private practice the hardest thing is to get your patient let alone. I have seen a patient with pneumonia killed in private practice by an unnecessary shifting of bed and linen.) He is made to drink a cup of milk every two hours, if he knows enough to do it; if he does not, it is administered like medicine. And it may be here noticed how the attendants of patients outside the hospital will faithfully exhibit drugs, and how carefully we have to impress upon their minds the superior claims of food. A glass of milk, which is generally drunk more readily if iced, stands by the bed, and thirst commonly induces the use of three or more pints daily. The girl who took twenty-four ounces of brandy a day also contrived to absorb eighteen pints of milk in the same time. Some patients, mostly private patients, are averse to milk, which is made more palatable by the addition of Apollinaris or other gaseous waters. Others will take a gallon a day, and leave the hospital avowing that they have had nothing to "ate" for three weeks. If our patient's pulse keeps below 110 or 115, nothing more may be needed; and a proportion of patients, whose exact number I have neglected to fix, have no other treatment. Besides the fact that beef tea is so often ill made,—and the philosophers now declare that there is "nothing in it,"—it does often create diarrhœa, as seen in the chart of Alexander M. (Chart XIII), where the flux brought the pulse down from 120 to 76, increasing the prostration.

Diarrhœa requires first the bed-pan. It may seem trivial to mention this, but if one takes it for granted that the patient outside a hospital is using one, he may find that a dangerous waste of tissue and strength is going on from the patient's rising to use the vessel. The symptom should be controlled if it amounts to more than three operations daily—which is all I wish the patient to have—by the

use of Harley's pill of one grain of opium and a quarter of a grain of sulphate of copper every second operation.

CHART XVI.

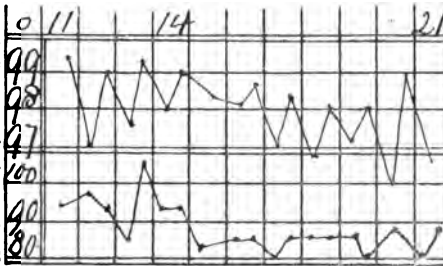
CASE XVI. Abbie G., aged thirty-two. Typhoid fever, with very low range and masked symptoms. Bed ten days before admission. Red spots; sordes; tympany; tenderness of abdomen.

If the patient sleeps fairly, a mild delirium requires

no treatment; if any is necessary, Graves' pill of opium and camphor is often serviceable; his prescription of opium and antimony for furious delirium I have used, but think baths and stimulus answer better. With delirium comes vigilance, which may be palliated by a sponge bath or a glass of wine, a Dover's powder if the skin is very dry, ten or fifteen grains of chloral, or forty grains of bromide of potassium. Fierce delirium sometimes requires restraint, and if baths and alcohol be not required by other symptoms, then fifteen grains of chloral, with thirty or more of bromide of potassium, repeated every two hours, are frequently of use. I have had to attack intolerable headache simulating meningitis with a subcutaneous injection of one third of a grain of morphia.

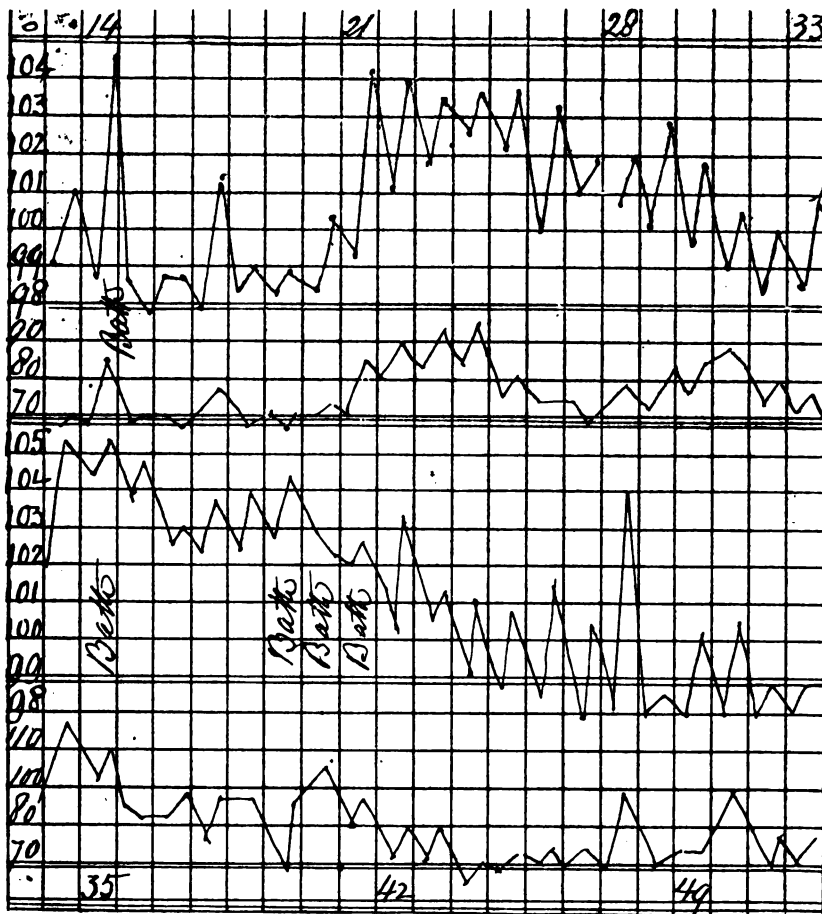
Temperature and pulse ascending, the baths, stimulus, salicylic acid, or quinine come into play, according to circumstances and the physicians' judgment.

Meteorism is exceedingly troublesome at times, for which I have used turpentine by the mouth and by rectum, with less satisfaction than authorities promise; its application as a stupe is quite as useful; its great advantage at the time when the tongue cleans in flakes I have not observed, because I have thought other stimulus more palatable and efficient. A typhoid patient requiring aspiration of abdominal gas is ordinarily too far gone, I suspect, for a favorable result, but the operation may afford comfort. If cough is annoying, and does not proceed from serious trouble in the lung, the cough mixture known as Dr. Bowditch's relieves it. For epistaxis in fever, I have had to plug the nares from behind twice in consultation, but



not in hospital. As the patient convalesces he is allowed light puddings, next soup and bread, when he begins to tease for food. If the temperature has dropped to normal for two days, with clean tongue and flat belly, and the pulse keeps up, it is the pulse of weakness, and calls for solid food and wine. A bit of steak given

CHART XVII.



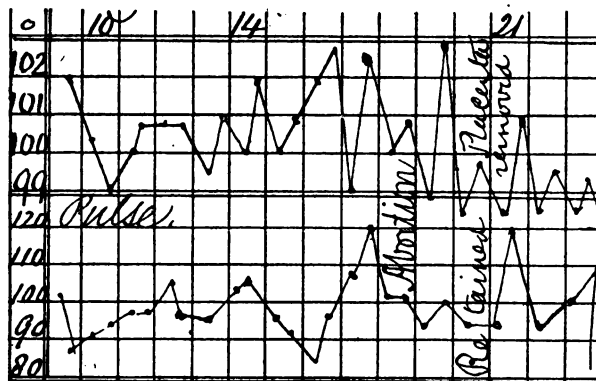
CASE XVII. John G. Typhoid fever, phlebitis of left leg. Did well until thirty-fourth day. Rose spots and blue maculæ. No diarrhœa. From twenty-first to twenty-fifth day high morning temperature, but good pulse; normal on thirty-first evening. On

thirty-fourth, both rose high, with symptoms of phlebitis. Two or three other cases in the one hundred and fifty; all did well.* Maclagan once in two hundred cases. In hospital sixty-two days.

too early, sitting up too soon or a few minutes too long, may send temperature and pulse flying upwards, and to make haste slowly is the best policy. Aitken says in the largest capitals that a soldier is not fit for duty under four months after an attack of typhoid fever. Few of our cases have as much law given them as that, and one of the most trying duties is that of discharging patients who are well, but not strong enough to go to work, some women are taken care of by St. Luke's Home for convalescents, which we wish was able to double its capacity, and receive men as well as women.—*Boston Medical and Surgical Journal*.

CASE XVIII. Nelly P. Typhoid fever. Abortion seventeenth day. Recovery. Began with general pains. Second day, vomiting and diarrhœa.

CHART XVIII.

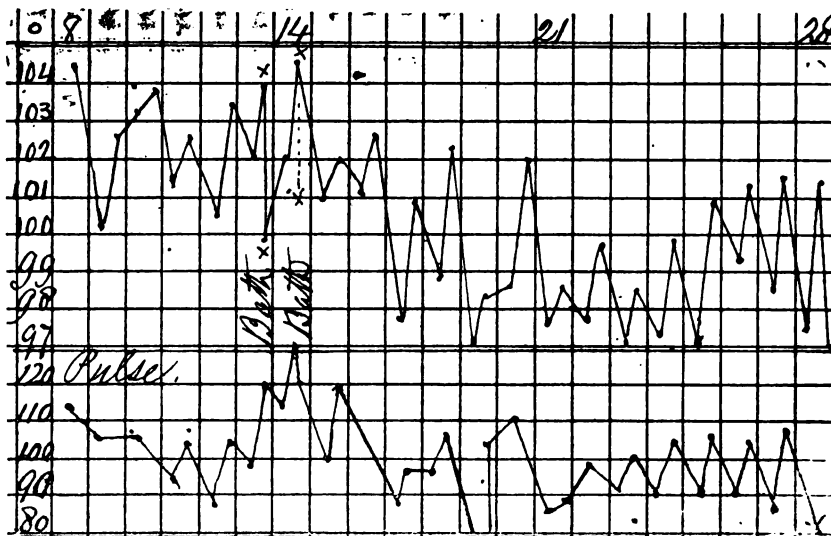


Catamenia absent three months. "Is not pregnant," but had vomiting six weeks after menses stopped; and breasts point to pregnancy. Thirteenth, tongue cleaning in flakes. Sixteenth, rose spots. Seven-

teenth, chill. "Turns have appeared." Uterus enlarged; os patulous. Eighteenth, water broke at three P. M.; patient surprised by finding a foetus in bed. Placenta retained without hemorrhage; removed on the twentieth. Fever gone on the twenty-fifth. Similar case in private practice did as well.

*See Murchison, Continued Fevers, page 195.

CHART XIX.



CASE XIX. John^rM., aged 22. Typhoid fever. Baths. Recovery. Delirious; rose spots. Tenth day, walk at night and defecates on floor. Twelfth, teaming all night. Thirteenth, tub at eight P. M. reduces temperature from 104° to 100° F. Fourteenth, pulse dicrotic. Brandy half an ounce every two hours. Tub at six reduces temperature from 104.8° to 102.5° F., and pulse from 130 to 120. Fifteenth, delirious; tries to get out of bed. Eighteenth, mind clearing, and clamors for a good dinner; free sweating.

The Purgative Effects of Hypodermic Injections of Aloin has been investigated by Dr. Frohmüller, who states that a solution of one part of aloin in 25 parts of very warm water will have the same purgative effect, when injected hypodermically as when taken internally. Two injections are usually necessary to produce the desired effect in from 6 to 14, very rarely in 2 to 3 hours, there being scarcely any irritation and never an abscess caused, where injected. Hypodermic injections with extract of aloes (1 part in 10 parts of water) also proved efficacious, but produced a stronger inflammation, where injected, than aloin.—*Pharm. Post.—Am. Jour. of Pharmacy.*

NOTES ON EPIZOÏTIA OF HORSE-POX.

Observed at Sétif, (Algeria) by Dr. PINGAUD, Surgeon-Major
in the French army. Communicated to the French
Academy of Medicine by Mr. LEGUEST.

[TRANSLATION.]

An epizoïtia of horse-pox having broken out in February last, among the reserve horses at Sétif. I took advantage of the opportunity to study the disease, at first with Mr. Viseux and afterwards with Mr. Thomas, his successor, both among the most distinguished chief veterinary-surgeons of the army.

I was soon convinced that we had under our eyes the true horse-pox such as it had been described by Mr. Bouley in his excellent "Dictionnaire de Médecine Vétérinaire," which he is editing jointly with Mr. Reynal.

Struck by the cleanness, I am almost tempted to say neatness, of some of the pustules, on some of the cattle I examined, of those of the mouth especially, I made up my mind to try some inoculations upon man, but not before having carefully weighed the possible consequences of such an experiment, and having consulted Mr. Viseux on the subject.

We selected, Mr. Viseux and I, for vaccinifer a four year old grey horse, full of vigor, and the excellent health of which had never changed since she had been bought, five months before, for the government. The cutaneous eruption was far from abundant in this animal; indeed, hardly a few scabby pustules could be found in the folds of the pasterns.

But in the mouth and especially behind the upper lip, the mucous membrane was thickly studded with innumerable acuminate vesicles, red at their base, opaline and translucent at the top, showing in short, that characteristic pearly appearance so well observed and described by Mr. Bouley. These vesicles were to furnish us with the inoculating matter.

As subjects of four experiments we took seven young recruits from the 18th hussar regiment, who had never been vaccinated and whose constitution showed, apparently at least, no visible blemish.

The inoculating liquid was put by Mr. Viseux upon *new* lancets and I performed, myself, the operations with all the care desirable.

Six days later, six of the men operated upon showed vaccine

pimples, small, it is true, but of the finest appearance, and showing this peculiarity, that their base was hardly inflamed, contrarily to what is so often observed after inoculations from arm to arm; four of these six men were afterwards used, the next day, and the day after, to inoculate 64 more, of whom eight only had never been vaccinated. My success exceeded my hopes; there were 40 positive inoculations, that is to say a proportion of 64 per cent.

Without stopping at the remarkable result obtained if it be compared with that generally produced by re-vaccinations from arm to arm, I take note now, of this fact, that contrarily to the opinion of one of our learned academicians, *not one* of the subjects directly inoculated with horse-pox presented the symptom of local inflammation. Among some of the second class, a few pustules assumed a furunculous appearance, *but nothing more*.

Our experiments were not limited to the above; we inoculated with horse-pox, at the same time and under the same conditions, several heifers, which allowed us to re-vaccinate with cow-pox a greater part of the garrison. Now, a fact which proves, coinciding with the assertions of Loy and of a Auzias-Turenne, how much the equine virus is weakened by passing through the cow,—the proportion of successful vaccinations produced by the latter inoculations fell from 64 to 28 per cent.

Although I was tempted to increase the number of those experiments upon man, with a view of checking the results obtained by my first inoculations, I had to give up the idea on account of the material difficulties which their execution presented, and especially because of the necessity every time of killing the animal in order to obtain the virus with all the desirable care and ease—so that I only inoculated two more cavalrymen with horse-pox taken again in the mouth of the animal we had already used. The result of this second experiment was negative, and I attribute the failure to the fact that most of the pustules being already opened and exhausted, the assistant surgeon to whom I had entrusted the duty, had taken upon his lancets hardly anything but mucus and saliva. I have the more grounds for believing the facts to be so, that I was struck by the exceeding viscosity of the liquid presented me.

Finally, some time later, I made a tenth and last inoculation on the human subject, which failed like the preceding two, and probably for the same reason,

As to my experiments upon animals, they were many and varied in the highest degree. Thus we inoculated not only the liquid furnished by the pustules of the mouth, but some we gathered from the nose, from the commissure of the lips, from the folds of the pasterns, from the scrotum, etc., under the skin of heifers, horses and sheep.

And lastly, we made with M^r. Thomas, who was the first to suggest them, some experiments upon scab which was then epizootic in the neighborhood of Sétif and which we inoculated, unsuccessfully by the way, to heifers, horses, sheep, and even to turkeys. I may give sometime a detailed description of these experiments; now I will merely resume in a few words the principal conclusions to which we can safely come to-day. The inoculation of horse-pox upon man is without danger, provided good care is taken to gather only the serous and transparent liquid found in the pearly vesicles of the horse's mouth.

I have never dared and never *would dare*, if the occasion should present itself, to inoculate upon the human subject, virus taken from the pustules of the animal's skin, although similar experiments might be made with impunity upon the cow; even more than this, it seems that the pustules of cow-pox obtained in this manner are larger and better developed than the others.

But man does not possess such immunity. Several authors, Loy, Bouley, Reynal, etc., have related cases of inoculation, mostly accidental, of the horse-pox of the limbs, of "grease," as it used to be called, which was followed by more or less serious inflammatory accidents, of the lymphatic glands especially. I can the easier believe them, that a similar case came under my observation: one of the farriers of the horse-reserve at Setif, who, in dressing the pasterns of sick horses was inoculated with horse-pox in the hand, raised a fine vaccine pustule and had afterwards a violent inflammation of the lymphatic vessels (angioleucite).

Is it not evident in such cases these evil effects, inflammation of the lymphatic glands, phlegmon and adenitis, are the result, much more of the putrid matter formed on the spot, around the cutaneous pustules, than of the equine virus itself. I confess for my part that from the day I had examined and especially smelt rather closely some of the pasterns affected with "grease," my mind was

enlightened regarding the origin of the disorders attributed heretofore solely to the inoculation of equine virus. I saw clearly that the inoculation of putrid or even only purulent matter which the lancet must necessarily take up along with the vaccine virus, must be highly dangerous, and henceforth I scouted the idea of attempting inoculating the human subject with vaccine taken from the cutaneous eruptions of horse-pox.

There remains the important fact, which future experiments will probably not controvert, that the inoculation of equine virus, taken in the mouth of the horse, with all the precautions mentioned, may not only be practiced without danger upon man, but gives results far superior to those obtained by ordinary means.

The success of the inoculation is unfortunately dependent upon a certain delicacy of operation, which the form and the anatomical seat of the pustules of horse-pox required. These pustules which are abundant on the internal side of the lip and under the tongue, necessarily surround in their inflamed base a certain number of small salivary glands of the mucous membrane. Their upper extremity alone, which juts above the surface as an acuminate vesicle, opalescent and translucent, encloses beneath a thin epidermic pellicle the virulent liquid. If the vesicle be opened with the greatest care, the operator will be astonished by the extreme thinness of the liquid layer it encloses. Hardly is the vesicle opened when it collapses, and from this collapse results the more or less umbilicated appearance noticed in the empty pustules alone. If then the pustule be compressed at its base with ligature or forcipressure tweezers, as it is done with heifers to get cow-pox, a thick, ropy and viscous liquid, which adheres strongly to the lancet, oozes out; and is nothing but concrete mucus or saliva. The inoculation of this last liquid upon the human subject or heifer, never gives but negative results. The virulent liquid is then solely represented by that small layer of thin and limpid serum which raises the epithelium towards the orifice of the mucous glands; thence a first difficulty in collecting the virus.

But this is not all: the dry fibrous and hard bodies which constitute the principal food of the horse, open the vesicles when hardly formed, and often before they have had time to fill, to such an extent that when the mouth is searched for vesicles, hardly a few of

them can be found intact, unless precaution has been taken beforehand to put the horse upon semi-liquid or green food.

If we consider these difficulties upon the one side, and upon the other, the fact that the inoculation of the cutaneous pustules of horse-pox to the udder of the heifer produces fine vesicles without inducing in the latter animal the accidents observed upon man, the preference given to this latter way of obtaining virus can be easily accounted for, though this virus be much less active than the one obtained directly.

There remains yet one serious objection, that of the possible transmission of glanders, which will always induce the practitioner to hesitate before inoculating the human subject directly with horse-pox. When, however, there has not been for a long time a single case of glanders in the neighborhood, when horse-pox develops in an epizootic form upon young, well-fed, and healthy horses, as was the case at Sétif; when the eruption in the mouth, which really fails to appear, shows anatomical characteristics which do not leave the least doubt as to its nature, which, moreover, may be previously tested by inoculation upon the heifer, then under such conditions, one may be authorized to give the human subject the benefit of the action of a protective agent, against variola, much more certain and powerful than the vaccine raised either upon a cow or a child. If, moreover, we were to institute a comparison between the risks of the transmission of glanders on the one side and of syphilis on the other, by the fact of direct inoculation from the horse, or from the child to man, we should, perhaps, confess that the former are very remote as compared with the latter. There can never be an absolute certainty that a child is not syphilitic. A proof of this came under our own observation a short time since; while we may acquire, if not absolute certainty, at least very great presumption that a horse, observed during a prolonged space of time, of which the antecedents, the age, the temperament, the constitution, the habitual state of health, etc., are known, cannot be suffering from glanders. And these presumptions will almost acquire the character of certainty if we take to account the fact that horse-pox is met with almost exclusively in young horses, while glanders, exactly the reverse, is in the large majority of cases found only in adult and old horses.

I cannot conclude this short notice without giving a just tribute of praise to Messrs. Visoux and Thomas, who have been quite as much my advisers and guides, as my devoted co-laborers, in the difficult study which we pursued together, of a question yet much controverted and the evolution of which was very delicate.

These two distinguished surgeons have studied the disease in all of its phases, giving their especial attention to its anatomy and diagnosis.

One may be assured beforehand of the exactness of the description they propose to make of it, which description will on several points complete the one already given by Mr. Bouley in his remarkable article on horse-pox.

T. F. W.

OFFICE OF SUPERINTENDENT NORTH CAROLINA IN-
SANE ASYLUM, RALEIGH, N. C.

DEAR SIR :—In the execution of the provisions of Chapter 161 of the acts of the late General Assembly, entitled, "An Act abolishing the Insane Asylum of North Carolina and incorporating the North Carolina Insane Asylum," the Board of Directors have established the following rules :

1. The Superintendent in the admission of applicants into the Asylum as patients, shall consider the application in the order in which they are registered in the book kept by him for registering of said applications according to Section 14, Chapter 161, Acts 1879. No applicant considered incurable by the medical officers of the Asylum shall be admitted as a patient until all who are deemed curable have been provided for.

2. No application made prior to the passage of the Act of 1879, shall be considered unless the same shall have been renewed since that time.

3. That the Superintendent furnish to the authorities of the several counties respectively a copy of the foregoing.

Very respectfully,


EUGENE GRISSOM,
Superintendent.

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED
IN WILMINGTON, N. C.

M. J. DEROSSET, M. D., New York City, } Editors.
THOMAS F. WOOD, M. D., Wilmington, N. C. }

 *Original communications are solicited from all parts of the country, and especially from the medical profession of The Carolinas. Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to our JOURNAL, by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to DEROSSET & WOOD, P. O. Box 535, Wilmington, N. C.*

A WORD TO THE MEDICAL STUDENTS OF 1879.

We deem this an opportune time to remind the medical students now preparing for their degree, and who expect to practice in this State, that their examination for State license in the coming year will be performed with due regard to the higher standard demanded by the present state of professional progress.

The examinations for the last year were very unsatisfactory and gave the Board great concern. Not that some of the examinations were not sufficiently creditable, but that the most of them were far short of what they ought to have been. The Examiners are tired of this way of being obliged to shape the questions propounded, to ensure an answer, merely to save the applicant from failure. They are willing to give each candidate a fair showing, and wait patiently for proper answers, but they are determined not to put the answers in their mouths.

The law will be executed in the same spirit it was conceived, and the standard will not be lowered to suit the misfortunes of unprepared men. It is, therefore, well for medical students to bear in

mind that their diploma is no guarantee of proficiency, and that they must strive to attain the standard adopted by the Board.

Each candidate is examined in Anatomy, Physiology, Chemistry and Pharmacy, Practice of Medicine, Obstetrics, Materia Medica and Therapeutics. The examinations are oral and written, and are conducted separately by each examiner in his room, or in case of doubt or by request of the candidate, before the entire Board. The applicant will have to satisfy four out of seven of the Examiners that he is possessed of a good medical education, and he must also present the endorsement of some one known to the Board, as to his moral character.

The rejected applicants of last year, and any other persons can stand for their diploma. One or two of the most successful, because the best cultivated, of the applicants last year, were men who had had the advantages of only one course of lectures. These men had worked manfully and diligently for many years, and although they were more carefully scrutinized than any other, their endorsement was all but unanimous. These remarks are made, not to encourage undergraduate students to come before the Board, but to encourage those who are struggling and who are satisfied of their proficiency, not to give it up. The Board regrets that undergraduates should apply, nevertheless, but the law does not bar them, and neither can the Board.

SOME EXPLANATORY DIRECTIONS WHICH SEEM TO BE NEEDED.

During the course of the organization of the North Carolina Board of Health, owing to the great demands upon the Secretary, many essential items seem not to have been understood, and the following circular letter is reproduced for the information of all concerned :

OFFICE OF THE SECRETARY OF THE NORTH CAROLINA BOARD OF
HEALTH.

WILMINGTON, N. C., October 31st, 1879.

DEAR SIR:—From the experience we have acquired since the North Carolina Board of Health was organized we are satisfied that

the scope of our work is not sufficiently understood, nor its importance appreciated by the medical profession, therefore the necessity for this personal appeal to every doctor in the State.

Six months ago the North Carolina Board of Health was organized under the Act of the General Assembly of 1879, by electing six members of the Medical Society of North Carolina, and by the appointment on the part of the State by Governor Jarvis, of three more. The Board met and took into consideration the work that could be accomplished with the limited means given them by the State and notwithstanding the disappointment felt at the lack of means, the work was courageously inaugurated. Circulars were several times sent to every county in the State, setting forth the objects of the law and indicating the outline of the work expected to be done.

At this date, *forty-five* counties have completed their organization, leaving *forty-nine* yet to organize.

As the success of the work depends upon the aid given by each individual physician, it has been thought best to give a statement of the special objects we have before us. The Board is willing to share whatever success it achieves with the profession, but the profession as a body cannot escape the odium that the failure in this work will bring upon it.

The chief aim of our work is to inaugurate preventive medicine, and establish it on such a basis as the present state of our knowledge will permit. To do this there is much elementary work, the principal of which is in keeping faithful records.

This work must be the basis on which to found intelligent study of the number and causes of deaths. To facilitate the collection of such statistics, the Board has prepared several circulars, and forms, which are freely distributed. But without each physician will conscientiously keep these records, and return them to the Superintendent of Health, no accuracy will result. It is an easy matter for a doctor to record in his memorandum book the disease of which his patient died, the age, sex, and color also, and the aggregation of the simple items will enable the Secretary when they all are collected and tabulated to return to the doctor to pay him for the trouble, a statistical table of the percentage of mortality in any given disease. To make this more valuable though, we go

farther, and ask the doctors to record in the memorandum books furnished them, the diseases prevailing in their practice, this does not add materially to the amount of recording, but in the end enable us to compare those falling sick with the number of deaths, and so enabling the percentage of deaths in any of the diseases to be known. To the conscientious practitioner this should be greatly desired; for if by comparison of his results with the general results he finds that his mortality is greater he would set about to inform himself of the causes of unsuccess; or on the other hand take courage if he is succeeding better than others. In this view of the case vital statistics is not just a matter of curious information, but a help to the intelligent practice of medicine.

The Superintendent by the law is under penalty to make his report to the Secretary by the 10th of each month, and the failure on your part, hinders him in the performance of his duties, and is unreasonable and unjust both to the individual doctor and to yourself as a member of the profession seeking to further its interests.

It is the design of the State Board, to issue from time to time circulars on sanitary matters. Three of these pamphlets have already been issued: "Method of Performing Post-Mortem Examinations," "Circular on the Ventilation, Drainage, Drinking Water, and Disinfectants," and "Sanitary Engineering," the latter by Major Wm. Cain, Civil Engineer of the Board. These publications will be sent to any one desiring them, if the postage, three cents, is sent. Other pamphlets are in preparation on the "Storage of Drinking Water," "The Prevention of the Spread of Diphtheria," "What is meant by Protective Vaccination," and others.

The most important of the investigations by the Board for the first two years, is to enquire into the drinking water, by analysis, and also to examine food, drugs, disinfectants and other articles by the same means.

Sufficient means are now at the disposal of the Chemist of the Board, Dr. A. R. Ledoux, to enable us to push forward such analyses as are now in hand, and also to work regularly onward, as fast as may be consistent with accuracy. Directions will be given to any one enquiring, as to the way to proceed on the part of those persons desiring analyses, upon application at this office. The analyses of drinking water so far performed have resulted in marked efforts at sanitary reform.

Only a few items of our work have been mentioned, but enough has been said to show how deeply every physician should be interested. We are aware that our work is imperfect, but is it in the nature of things that seed-time and harvest should come together?

We earnestly bespeak your aid as recorders, as advisers, as supporters, and believe you will honor us in this respect.

Yours very truly,

THOMAS F. WOOD.

The circular of the Secretary of the North Carolina Board of Health deserves especial consideration. Great efforts are being made with small means, to organize all the various agencies possible, in the State.

We must go forward or fall behind in the work of sanitary progress. At present we are barely organized, and for no better reason than that the pay of some of our Superintendents is small. But are we not pioneers in the work, and will we not all be under the ban if we fail? We do not see how any intelligent physician can fail to lend his influence to the work. The time is not far distant when it will be the pride and glory of a North Carolina physician that he was an original worker in preventive medicine.

In one county where the pay is \$25 a year the Superintendent gives vent to the following ill-humored expression in regard to the blank forms: "the best lawyers in the State cannot understand the meaning of all the blanks and have Dr. Taylor and Dr. Stillé to help them." No one would express such an opinion after reading the blanks sent with the directions. Each Superintendent is furnished with the general directions following:

NORTH CAROLINA BOARD OF HEALTH, OFFICE OF SECRETARY.

To the County Superintendents of Health:

In reply to questions frequently received by letter, as to the duties of County Superintendents of Health, the following general items of information are given:

THE DEATH RATE.

Preliminary to all work, the death rate should be carefully registered. It will be impracticable for the Superintendent to know, personally, of deaths and their causes in his County; and in order to aid in the collection of these statistics, Memorandum Books are

furnished for distribution, not only to members of the County Board of Health, but also to all practitioners of medicine in the County. In addition to this, No. 6, Death Certificate, is furnished for distribution. In some sparsely settled counties deaths occur and there is no attending physician to give the certificate. In such cases it is best to send a blank to the officiating minister, as an unprofessional record is better than the failure to get the return.

DISEASES DANGEROUS TO THE PUBLIC HEALTH.

When such diseases occur, all diligence should be used to make early enquiry as to the origin of the first case, and prompt means adopted to quarantine them according to Section 9 of the Health Law. The Physicians' and Householders' Blanks are furnished for distribution to physicians and intelligent householders, that all items necessary to complete the history of the invasion of the diseases mentioned may be investigated and written up.

MEDICO-LEGAL POST-MORTEM EXAMINATIONS.

With a view to a uniform system for investigations under this head, a pamphlet containing minute directions founded upon the German Law of 1876, has been prepared, and it is earnestly desired that the returns of examinations will be made complete.

BLANK "B" RETURNS.

The blanks issued are intended to be returned annually. A careful reading of it will show the scope of the observations necessary to carry out the design. The work could be entrusted to the members of the County Board of Health from the different townships, to whom a blank may be issued with explanations. The advice of the City or County Surveyor in the general report would aid the more accurate composition of the report. To elucidate the topography, sketch-maps of townships would be highly esteemed by the State Board of Health, with an ultimate view to publication. If these reports are fully made, the labor of making a sanitary map of the State will be materially lessened.

DRINKING-WATER.

By consultation with Professor Ledoux, the Chemist of the Board, a plan has been agreed upon, which will enable him to make for the Board an examination of the drinking waters in the State. The Secretary especially desires the coöperation of Superintendents of Health in this work. It is desirable that several specimens of drinking water should be selected from every County, keeping always in view the necessity of having representative specimens, that a general idea may be obtained of the condition of wells and springs in a given neighborhood, town or city. Specimens recommended by Superintendents will have early consideration from the Secretary. In every case the packing must be done in accordance with Dr.

Ledoux's circular, and the freight expense borne by the applicant, as no means have been given the Board for this purpose.

VACCINATION.

It must be insisted on, that every person entering the poor house, work house and jail of the County shall be vaccinated by the Superintendent upon his first visit after new inmates have been received, except in such cases in which he is satisfied that the persons are already protected. Our State has been so long exempt from visitations from small pox that it is highly desirable that vaccination, the only certain prophylactic known, should be generously employed, that we may have continuous exemption. A pamphlet is in preparation on this subject, which will put before Superintendents much of the neglected literature of vaccination brought down from the Jennerian times. Vaccine will be furnished according to the provisions of Section 11 of the Health Law.

ABATEMENT OF NUISANCES.

In proportion to the diligence and intelligence with which the County Superintendent carries out Section 10 of the Health Law will greatly depend the sanitary condition of towns. Blanks are issued for the purpose of notification, and will be furnished on application.

Superintendents of Health should furnish, as soon as practicable, a complete list of the members of the Board of Health in their County. This only includes those who are actually present at the meeting of organization, or who connect themselves with the Board afterwards. To such members will be sent all the printed matter issued by the State Board, and their assistance and coöperation is earnestly desired.

PERMITS FOR BURIAL.

It will promote the accuracy of mortuary statistics if the County Boards of Health will use their influence to have a rule made by the city corporations and cemetery associations forbidding the burial of any person until a certificate is given by the last attending physician of the cause of death. This plan is largely adopted already, and is not considered burdensome by any.

Letters of enquiry upon any matters connected with the work of the State Board will be promptly answered; and suggestions looking to the advancement of the interests of the North Carolina Board respectfully solicited.

Will not North Carolina doctors show themselves equal to the task of aiding the Superintendents of Health when it costs them so little trouble?

Our work should not languish because of the indisposition of the uninformed men now and then unfortunately connected with it.

These men must stand aside. The progress of our civilization demands work, and these laggards and obstructionists will be left entirely out of the race as the work develops into its full proportions.

LET IT REST!

We notice that S. Cabot in the *Boston Medical and Surgical Journal* says, that he (or she) has not seen it mentioned that the Medical Societies of North Carolina and Rhode Island showed any indication of their scientific decadence by admitting women to membership.

We will not speak for Rhode Island, but we will say for North Carolina that one experiment is enough. There are no women doctors hung on to the State Society now, and one more move would be a serious disaster to all concerned. The action of our State Society need not be quoted as an example to be followed, for the heart burnings and bad feelings engendered by it will, perhaps, not subside in this generation.

Convenient and Reliable Medicinal Agents.—Messrs. Wyeth & Bro., of Philadelphia, prepare compressed tablets of several medicinal agents, among which bicarbonate of potash and soda, Dover's powder and peptonic tablets are the most noticeable. In a case of cancer of the stomach, in which these preparations were used, great comfort has been obtained. When chemists succeed this well in making preparations to suit the necessities of medical practice, they should—and we believe they do—receive the hearty patronage of the consumers.

Unpaid Letters for the Board of Health.—The Secretary of the State Board of Health earnestly requests that the postage on the monthly reports of Superintendents be paid in full at the mailing office. Have your letters weighed carefully and it will save the Secretary a considerable expense.

REVIEWS AND BOOK NOTICES.

DISEASES OF WOMEN. By LAWSON TAIT, F. R. C. S., Surgeon to Birmingham Hospital for Women, &c., &c. Second Edition. Thoroughly revised and enlarged. Specially prepared for "Wood's Library," New York: Wm. Wood & Co., 27 Great Jones St. 1879. Pp. 192. 8vo.

The publishers do not seem to have shown the same sagacity in the selection of this work as an exponent of the present state of gynecological science for their "Library," as heretofore, in their selections in the other branches of medicine.

Many years ago when there were no such rival works in the field as those of Thomas and Emmett in this country, and Barnes and Graily Hewett in England, the present volume would have been esteemed more highly than now. It belongs rather to that class of treatises on diseases of women, of which the illustrious Dr. Charles West has given us such a classical example; it takes the medical rather than the surgical field in gynecology, but the surgery of many important matters is not neglected.

The manner of the author is not that of a teacher writing for the guidance of students in their elements, but rather that of a specialist, who having become ripe in experience, brings his wealth of opinion together in a book for the benefit of gynecologists.

His words of advice on the examination of females upon whom it is asserted a rape has been committed are well worth heeding. "No question," he says, "which can come before a medical practitioner can present greater difficulty and delicacy than to decide upon the appearance in a case of alleged rape; for on the one hand he has to assist in the punishment of an odious crime, and protect that all mankind holds dearest; while on the other he has to guard against the mistaken or evilly disposed efforts to convict an innocent man. No charge can be made more easily than one by rape, and none is more difficult to disprove, and the statement of eminent jurists must always be borne in mind that in the assize courts there are probably twelve false charges for one that is genuine. This may look like an exaggeration, but I am by no means clear that it really is." (Pages 27 and 28.)

Some personal narratives are given of gross and criminal charge^s

made without foundation,—descriptions which are very vivid and will doubtless convince the reader of the necessity of painstaking and thoughtful examinations on their part.

The discussion of dermoid and dentigerous cysts (pp. 142-44) will prove highly interesting to the reader. The conclusion of the author is, that dermoid cysts are the "result of hypererchetic development of an ovum in foetal or infantile life, growing into a tumor during and subsequently to puberty. They are always invested by the peritoneal covering of the ovary, beneath which is a more or less thick layer of the nucleated and banded fibrous tissue, which forms the basis of all ovarian cysts. I have seen this layer as thin as tissue paper, and in one old-standing dermoid cyst it was more than an inch thick and occupied by large plates of calcification. In it are to be found the same fusiform nuclei which characterizes the stroma of the ovary, only they are more sparsely distributed.

"Within this layer the peculiar structures met with in dermoid cysts occur, an arrangement strongly indicative of the method of origin which I have suggested for them."

Mr. Tait seems to belong to the reactionary party on the question of antiseptics. He thinks that the successes in ovariectomy are due not to antiseptics, but to increased experience and to a better sanitary arrangement of his patients.

"To perform ovariectomy antiseptically is, at least four hours work, including the time required for preparation. * * * There is equally no doubt that certain details of the system, the antiseptic spray especially, are a great hindrance to the operation; and I have more than once seen an ardent antisepticist push away the spray impatiently in order that he might secure a bleeding point. The first ovariectomy I saw performed antiseptically ended very disastrously, for the spray seemed to prevent the operator recognizing the peritoneum from the transversalis fascia, and he made a very expansive separation of the two before he found out his mistake."

Mr. Tait considers chloroform "quite inadmissible" in ovariectomy, "on account of the frequent and very persistent vomiting, which follows its use."

Few American physicians would prefer this work to Thomas' and Emmett's, but it should be esteemed as a valuable addition to his library.

SANITARY ENGINEERING. By WM. CAIN, C. E. Pp. 29.

This pamphlet is one of the series now being issued by the North Carolina Board of Health, for the information of the people. Mr. Cain is the Civil Engineer of the Board, by appointment of the Governor, and has devoted much study to the science of engineering. This pamphlet is not intended to be a treatise on the whole subject of sanitary engineering as its title might imply, but it is a plain and instructive tract on the needs of communities in regard to sanitary measures, with concise and explicit directions as to the remedies to be applied.

The dry-earth privy system as set forth in this pamphlet should attract the attention of the officers of every municipal corporation particularly, and the public in general. The utter neglect of any system, and the vile and disgusting way the great majority of privies in our towns and villages are allowed to remain, is a sure sign that our boasted civilization has not reached its acme. There is hardly a town on the Southern Atlantic coast, where the night air is not loaded in the summer and fall months with the noisome effluvia of stinking privies. The dry-earth system is a remedy for this evil, and should be generally adopted. The people should not wait for corporation officers to get it through their slow brains, but each citizen should commence for the reform for himself, for poverty could hardly be an obstacle to this improvement, as the whole cost would be exceedingly small. The one obstacle in the way is the prompt removal of the filled pails or boxes, but this need not long be an obstacle, for in those towns where they have been largely used, farmers have competed for the privilege of taking them away and returning them at their own cost, for the fertilizing material gained.

Once initiated the dry-earth system will take firm hold upon those communities having no general water supply or sewerage system. The way to make this reform general is for its adoption by a citizen here and there, and soon its superiority would be so apparent, that others would follow, and eventually a healthy public opinion would be created. An examination of this pamphlet will show how the change can be made at a small expense, and every head of a family in the State should read it.

Mr. Cain does not attempt to include all matters of household sanitation in this pamphlet, but we would like to call his attention

and that of the public to a cheap means of disposing of slop-water. We first saw it mentioned in the *American Agriculturist*, that great household monthly, and have seen it adopted in one instance with striking advantage.

The following is the plan : A wash sink in the house and kitchen are made with a strainer to keep back such coarse things as would close the pipes. A pipe leads the water to larger earthen pipes, which are buried in the ground from two to three feet, and fitted together with loose joints, and open ends of exit. It is best to select a spot of ground needing irrigation, in which to locate the pipes, accomplishing by this means the disposal of water which if allowed to stand would be exceedingly noisome, but which adds greatly to the fertility of the soil when employed this way. In the case we refer to above, the adoption of this plan settled the perplexing question of what to do with slop water, and converted a sandy sterile spot where coarse grass grew only with difficulty, to be the most ornamental spot about the premises.

We commend the effort the North Carolina Board of Health is making towards the circulation of sound sanitary teaching, and trust this work will not escape the eye of the public thinkers.

A CLINICAL TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM.

By M. ROSENTHAL. Translated from the author's revised and enlarged edition, by L. Putzel. M. D. Pp. 285. Vol. II. New York : Wm. Wood & Co.

The appearance of the second volume of this work confirms us in the favorable opinion we formed of the first.

The subjects treated in this volume enhance greatly the value of the work. Among them may be mentioned Progressive Muscular Atrophy, Neuroses of the Spinal Chord, Hysteria, Catalepsy, Epilepsy, Eclampsia (Acute Epilepsy), Tetanus, Hydrophobia, Paralysis Agitans, Chorea in its Different Forms, Writer's Cramp, Stuttering, &c., &c., comprising by far the chapters which will be consulted most frequently by the general practitioner.

Turning to the chapter of hydrophobia, we do not see that the author has shed any new light on the subject. The mention of Offenberg's successful case, in which he injected 0.02 (one third gr.) of curare, seven doses within 5½ hours, causing complete disappear-

nance of the spasms and of hydrophobic and photophobic symptoms would be quite reassuring, but for the more recent unsuccessful trial made by Dr. T. B. Curtiss, of Boston, with the same drug in largely increased doses.

The treatment of tetanus, amounts to a rehearsal of the various remedies which have had their day, forming a most gloomy picture of failure or of success too doubtful to be attributed to the remedies. We cite these chapters merely to show that there has been no advance made as far as the treatment of these diseases is concerned.

One note we quote on hypodermic medication of neuralgia for its practical utility, and for future reference.

If we desire to combine morphine and quinine for hypodermic use, we must employ aqueous solutions of the hydrochlorate of morphine and bisulphate of quinine. I have shown (*Med. Presse*, ——— 22, 1867) that a mixture of concentrated solutions of acetate of morphia and bisulphate of quinine will give rise to cheesy precipitate of the insoluble neutral sulphate of quinia, with the formation of the sulphate of morphia and hydrated acetic acid according to the law of double substitutions. The severe accidents which Nussbaum has observed upon himself from the use of these injections (intense pruritus over the entire body, redness of the face, tinnitus aurium, flashes of light, pulse of one hundred and fifty and one hundred and seventy) are exceedingly rare occurrences. Page 185.

The publishers could not have done better than in selecting Dr. Rosenthal's Work for their Library of Standard Medical Authors, and physicians should esteem the facilities afforded them for adding to their collection so many good books at such a small price.

A GUIDE TO SURGICAL DIAGNOSIS. By CHRISTOPHER HEATH, F. R. C. S. Pp. 214. 8vo. Lindsay & Blakiston, 25 South 6th Street. Philadelphia, Pa. : Price \$1.50.

This seems to be the golden age for medical students. Everywhere we turn we have learning made easy, but in such a copious flood of volumes as to bewilder the unsagacious.

This volume is destined to enable the student to bring his mind to bear promptly and efficiently upon the patient before him, by affording him careful directions as *What* to observe. The first ten

pages are devoted to case-taking, the author calling attention to the fact that the habit of case-taking must be adopted early in life if it is to become easy and serviceable.

The anatomical order is observed in describing the diagnostic symptoms.

The use of marginal paragraph captions makes the volume easy to consult.

Frequently we see a paragraph that condenses valuable instruction in a few sentences, and just the sort of instruction too that a student or practitioner might find of practical use, as in this paragraph on diagnosis of disease of the testicle.

(1.) "If the body alone is enlarged, the epididymis and cord being healthy, the disease is probably *syphilitic*, and attention should be directed to other symptoms of constitutional syphilis. (2.) If the body of the testis is fairly healthy, but the epididymis enlarged and nodulated, with some thickening of the adjacent vas deferens, the disease is probably *tubercular*. (3.) If the vas deferens is thickened throughout its length, the epididymis enlarged and hard, and the body of the testis thickened, the case is probably one of *chronic inflammation* following acute orchitis, or dependent upon urethral irritation."

STUDENTS' POCKET LEXICON; Giving the Correct Pronunciation and Definition of all words and terms in use in Medicine and the Collateral Sciences, the pronunciation being plainly represented in the American Phonetic Alphabet. With an Appendix. By ELIAS LONGLEY. Philadelphia: Lindsay & Blakiston, 25 S. 6th Street. Price \$1.00.

Every author seems to be writing for the benefit of the student (i. e. the undergraduate, for all doctors are students or they ought not to be doctors,) digesting his mental food for him so that he has only the trouble of assimilation.

After mastering the American Phonetic Alphabet the way to understanding the author's pronunciation is clear. The little volume contains about 8,000 words and definitions, and will be a great help to those students who have not been favored with a liberal education, a class which the author estimates to be very large. While this lexicon does not take the place of Dunglison and Thomas, it promises to be a great favorite.

PHOTOGRAPHIC ILLUSTRATIONS OF SKIN DISEASES. By GEORGE A. FOX, M. D. Parts 3 and 4. New York: E. B. Treat & Co., No. 805 Broadway, N. Y. In 12 parts, at \$2.00 each.

As this work progresses, the teaching value of Dr. Fox's method in skin diseases by photographic illustrations, places it in a position unequalled by any other.

Part 3 gives four photographs of nearly equal value. They illustrate Fibroma, Varicella, Zoster Pectoralis and Lumbalis, and Eczema universale. The latter is more especially fine and truthful.

Part 4 illustrates Leucoderma, Chromophytosis, Favus Capitis and Corporis, and Eczema Cruris.

The nomenclature adopted by Dr. Fox is not generally in use, but strikes us as being good. For instance he writes of *Zosters pectoralis*, instead of *Herpes zoster*, &c. "It is advisable" he says, "to class zoster as an affection *sui generis*. The characteristics which serve to distinguish Zoster from Herpes may be concisely stated as follows: Zoster is almost invariably unilateral, and rarely occurs more than once in a lifetime. * * * Herpes is usually bilateral if at all extensive, and may be tolerably symmetrical. It occurs many times in the same patient. There is no tendency to distribution along the course of a single nerve for any distance. The pain is not of a neuralgic character.

Many works are more highly pictorial, but none, not even excepting Hebra are as exact copies of the diseases they intend to illustrate.

MEMORIAL ORATION in honor of EPHRAIM McDOWELL "The Father of Ovariectomy." By SAMUEL D. GROSS, M. D., LL. D., D. C. L., Oxon. Delivered at Danville, Ky., at the dedication of the monument erected to the memory of Dr. Ephraim McDowell by the Kentucky State Medical Society, May 14th, 1879. Published by the Society. Louisville, Ky. Printed by John P. Morten & Co, 1879. Pp. 77.

This is a handsome memorial volume, issued by the Kentucky State Medical Society to commemorate the achievements of "The Father of Ovariectomy." The Society did not stint the money, and the publishers have succeeded most admirably in their part of work. The engraving of Dr. McDowell, which is the frontispiece is very

valuable, and the whole volume will be prized by American medical men as a just tribute of respect.

This is no place to comment on the quality of the addresses, but we have seldom read as graceful a speech as that by Dr. Cowling.

DR. M. J. DEROSSET.—Our associate has removed his residence from New York to San Antonio, Texas. He carries with him the good wishes of a large number of friends, many of whom will sadly miss the advantages of their intercourse with him. It may not be unbecoming even in the JOURNAL of which he is one of the Editors, to say that Dr. DeRosset's accomplishments as a scholarly physician, are seldom equalled. His versatile power surprises those who are privileged with a close acquaintance. He cannot fail in his new home to gain the entire confidence of the community.

We regret that he thought it to be to his interest to leave New York where he had been favored by the high consideration and esteem of those "big-wigs" who seldom fail to recognize true talents, we only wish for him as true friends as those he has left behind him.

Do your own Crystallizing.—The *Atlanta Medical and Surgical Journal* has tastes running parallel with this Journal, in many things, especially in its selections; therefore we cannot question the taste of the editor. We would suggest though that after a little practice that that Journal could crystalize for itself, surely it could if the same fuel we employ was used under the editor's evaporating dish—viz. : Wood.

DR. E. S. GAILLIARD has removed his valuable journals to New York city. There is no city in the world where true worth is earlier recognized than in New York, and we, therefore, feel assured that he has made a good move. We trust that there will be no break in its former brilliant and successful career as a journalist.

Back Numbers Wanted.—Fifty cents a number will be paid for three numbers of the JOURNAL for January, 1878.

FORMULARY.

Walker's California Vegetable Vinegar Bitters.—Each bottle contains from nineteen to twenty fluid ounces, consisting of a decoction of aloes and a little gum guaiac, anise seed and sassafras bark, in water slightly acidulated with acetic acid, possibly the result of secondary fermentation, or added in the form of sour cider. Each bottle contains also about one ounce of Glauber's salt, one-quarter of an ounce of gum arabic, and from one-half to one ounce of alcohol.—(Eberbach, Hoffman, Nichols.)

Brandreth's Pills.—Each box contains twenty-four or twenty-five pills, weighing about two and one-half grains. The twenty-four pills consist of ten grains of podophyllum root, ten grains of extract of the same, thirty grains of the extract of poke berries, ten grains of powdered cloves, from two to five grains of gamboge, traces of Spanish saffron, and a few drops of oil of peppermint.—(Hager.)

Radway's Ready Relief.—This is a light brown liquid, consisting of eight parts of soap liniment, one part of the tincture of capicum, and one part of aqua ammonia.—(Hager, Heckholt, Hoffmann.)

Radway's Renovating Resolvent.—Each bottle contains about six fluid ounces of a vinous tincture of cardamon and ginger sweetened with sugar.—(Hager.)

Pierce's Golden Medical Discovery.—Each bottle contains one drachm of the extract of lettuce, one ounce of honey, one-half drachm of the tincture of opium, three ounces of dilute alcohol, and three ounces of water.—(Hager.)

Pierce's Favorite Prescription.—A greenish-brown turbid liquid, consisting of a solution of one-half ounce of sugar, one-drachm of gum arabic, in eight ounces of a decoction made from two drachms of white agaric, one and one-quarter drachms of cinnamon, and two drachms of cinchona bark; to this mixture are added one-half drachm of tincture of opium, one-half drachm of tincture of digitalis, and a solution of eight drops of oil of anise in one and one-half ounces of alcohol.—(Hager.)

Van Buskirk's Fragrant Sozodont.—A red liquid consisting of a solution of one-half drachm of white castile soap in one ounce of water, and one-quarter of an ounce of glycerine, colored with

cochineal, and flavored with oils of winter-green, cloves and peppermint. The powder which accompanies each bottle consists of a mixture of precipitated chalk, powdered orris root and carbonate of magnesia.—(Wittstein, Hoffman.)

The above are taken from Hoffman's "Popular Health Almanac," a publication which is meant to serve as an antidote to the numerous almanacs distributed broadcast through the country as a means of advertising various patent nostrums.

AYER'S CHERRY PECTORAL.

R

Morph. acet. gr. iij.
Tr. sanguin. canad. 3 ij.
Vini antim. et potas. tart
Vini ipecac aa 3 iij.
Syr. pruni Virgin 3 iij.

M.

—Hospital Gazette.

THE POISON OF MALARIAL FEVER.

The knowledge of the last cause of human disease has been put a good step forward by the discovery of the poison said to produce swamp or malarial fever. On the first of June, this year, the Professor of Pathological Anatomy in Rome, Tommasi, presented before the Academy of Science, the results of some researches which he had instituted in connection with Professor Klebs, of Prag.

Both the researchers lived for some weeks during the spring of this year, in Agro Romano, the modern classical land of swamp fever, where they investigated into the constituents of the lower stratum of the air and of the stagnated water, in both of which was discovered microscopical *fungus*, consisting of innumerable brightly moving spores of a long oval form, measuring a diameter of 0.9 mikrometer.

This *fungus* was artificially bred in different kinds of fertile soils, and the so-prepared wet mass filtered and after having been repeatedly washed, and the undissolved portion remaining on the

filter was put under the skin of a healthy dog. With this animal originated thereby fever of a regular typical form with free intermissions, which lasted for 60 hours, accompanied by increased heat of the body until it had reached a point at 42°, (ordinary temperature from 38° to 39°.) The filtrate was also injected under a dog's skin, but with it there was observed only a slight change, in the temperature of the body which exhibited no signs of an intermittent character. The one with the artificially produced intermittent fever showed quite the same acute swelling of the spleen as that of any human being, and the same characteristic *fungus* was observed in large quantities in the spleen and other lymphatic glands. Tommasi and Klebs gave them the name of "*Bacillus-Malariae*."

For the exact scientific information the reader is referred to the Journal edited by Professor Klebs. From the exactness of which these two gentlemen carried out these experiments there is not a shadow of a doubt about their results.

OBITUARY.

WILLIAM W. DAVIS, M. D.

Dr. Wm. W. Davis died in this city on the 22d day of October, 1879, aged 65 years. He had long suffered with Jacob's ulcer, to which he finally succumbed.

Dr. Davis had accomplished many years of successful professional life, devoting himself with unusual intensity to therapeutics when it was not fashionable with the profession to reach out beyond the orthodox limits, for a curative agent. The introduction of the eclectic resinoids into general practice in this section was largely due to him.

Dr. Davis was especially skilled in the diagnosis and treatment of the inferior animals, and the greater part of his study of late years was devoted to this neglected branch of medicine.

He was at the time of his death the senior practitioner in this city, and is much missed by a select clientelle, to whom, by his failing health, he had been obliged to limit his practice.

He was a graduate of the University of Pennsylvania.

BOOKS AND PAMPHLETS RECEIVED.

Morbid Fears as a Symptom of Nervous Disease. By George M. Beard, A. M., M. D. Pp. 10.

Sanitary Engineering. By Wm. Cain, C. E. Member of the North Carolina Board of Health.

The Mulum in Parvo Reference and Dore Book. By C. Henri Leonard, M. D., &c. Detroit. 1879.

Neurasthænia (Nerve Exhaustion) with Remarks on Treatment. By George M. Beard, A. M., M. D. Pp. 20.

Anæsthetic Inhalation. Rival Claimants to the Discovery. By Wm. J. Morton, M. D. Reprint from the New York Times.

Winter and its Dangers. By Hamilton Osgood, M. D. American Health Primer Series. 1879. Philadelphia. Lindsay & Blakiston.

The Treatment of Fracture of the Lower End of the Radius. By R. J. Levis, M. D. Reprint from Transactions of the Medical Society of Pennsylvania. 1879.

Remarks on Ovariectomy with Relation of Cases and Peculiarities of Treatment. By Nathan Bozeman, M. D. New York. Reprint from Medical Record. Pp. 60.

Sanitary Problems of Chicago, Past and Present. By J. H. Rauch, M. D., Chicago. Reprint from Transaction American Public Health Association. 1879.

Neurotomy a Substitute for Enucleation. A New Operation in Ophthalmic Surgery. By Julian J. Chisholm, M. D. Reprint from Virginia Medical Monthly, 1879.

Physician's Visiting List for 1880. Twenty-ninth year of its publication. Philadelphia. Lindsay & Blakiston. This visiting list has held its own for all these years, and is still the favorite with a large number of physicians. Price \$1.00 to \$1.50.

Presidential Address. Before the American Medical Association at its Thirtieth Annual Session, Atlanta, Ga., May 6th, 1879. By Theophilus Parvin, M. D. Extracted from the Transactions of the American Medical Association. Collins. Philadelphia. 1879. Pp. 33.

Investigations on Rainfall, Percolation and Evaporation of Water from the Soil. Temperature of Soil and Air, Disposition of Dew on the Soil and Plant, at the Massachusetts Agricultural College Experiment, Amherst, Mass. By Professor Levi Stockbridge. Boston. Raud, Avery & Co. 1879. Pp. 38.

The Physician's Pocket Day Book. By C. Henri Leonard M. A., M. D. Accommodates daily charges for twenty, or forty, families weekly, has complete obstetrical record for ninety-four cases, and monthly memoranda for debtor and creditor cash account. Price \$1.00; your name on the side in gold leaf, \$1.25; your name, town and State, \$1.50. Detroit, 1878. We have been using Leonard's Day Book for a long time and we think it is the very best we have seen.

NORTH CAROLINA MEDICAL JOURNAL.

M. J. DEROSSET, M. D., }
THOMAS F. WOOD, M. D., } Editors.

Number 6. Wilmington, December, 1879. Vol. 4.

ORIGINAL COMMUNICATIONS.

VIBURNUM PRUNIFOLIUM IN ABORTION AND MIS- CARRIAGE.

By JAMES B. HUGHES, M. D., Newberne, N. C.

It is estimated that of every hundred mothers of the average age of thirty years, thirty-seven of them have aborted one or more times; and probably a large proportion also have been threatened with this accident, who have escaped its actual accomplishment. When such an event is impending, if we could always ascertain satisfactorily that the ovum is so far detached from the uterine walls as to lead to its death from want of proper circulation, or that it is already blighted, the plan would be to encourage its expulsion. But this vexed question is difficult of solution, and as a rule of practice, we endeavor to save the foetus, unless it is engaged in the os uteri, and its movements previously existing, have for several days ceased to be felt, and the foetal heart can no longer be heard. The hemorrhage is the most alarming symptom, and is more dangerous from its quantity, than from the length of time which it

continues. But the amount and duration of hemorrhage which will destroy the foetus vary largely in different cases : the dilatation of the os, and its softened or rigid condition offer the same discrepancies : so also with the degree of mental disturbance or grade of fever. The hemorrhage is most frequent in the earlier months, as far as the third or fourth month, and the generally accepted explanation of this is, that it is due to the structure of the placenta, "the decidua being thick and largely developed, and the lobes of the placenta being held together by plastic matter ; while, in the the latter months, the lobes of the placenta spread themselves out over the uterine surface, and when contraction of the walls occurs, it merely compresses the lobes nearer together, without detaching the placenta or breaking up its vascular connections." The recital of a few cases, in which *viburnum prunifolium* has been used to avert abortion and miscarriage, may tend to strengthen the growing confidence of the profession in its value of this drug.

Mrs. ———, aged 21 years ; married eight months. Had been in good health, but was now enfeebled by the continued nausea and vomiting of pregnancy. Was called to see her July 13th. She was in the twelfth week of pregnancy ; had awakened in the morning with slight hemorrhage, which increased as the day advanced, with pains in the back, hypogastrium, and down the limbs. Used cold astringent applications to the vulva and gave one grain doses of opium and acetate of lead every hour. After three doses, there being no change for the better, she took teaspoonful doses of fl. ext. *viburnum*, every one or two hours, which soon checked pains and hemorrhage. Slight returns occurred at long intervals, until the 18th when they disappeared.

On the 23d, hemorrhage of great quantity reappeared, requiring tampon, and repetition of *viburnum*. Upon removal of tampon, one day later, a fibrinous mass, the size of half a walnut was found in the mouth of the uterus, which proved to be a clot of blood. All of the discharges were carefully examined, and as the foetus at the 12th week would be five or six inches long and weigh about one quarter of a pound, there was no possibility of error in detecting if it had escaped. She soon regained her strength and rode 35 miles to visit some relations. The month of August passed without any symptoms of trouble, but in September it was reported to me, that

she menstruated, the breasts had shrunk, and abdomen diminished in size; and the case will probably terminate sooner or later in the discharge of a mole.

Mrs. — aged 21 years; married 18 months. Had aborted twice at 8th and 9th weeks. August 13th, is again in the 9th week of pregnancy, and symptoms of abortion setting in, she was relieved by three or four doses of viburnum. In the 12th week, same symptoms relieved in same way. In 16th week, the time corresponding with fourth menstrual epoch, she was advised to take the medicine in anticipation of possible trouble, and it passed over without any return. She is now in the 22d week and doing well.

Mrs. —, aged 30 years; fifth pregnancy. August 8th, in 12th week of pregnancy; had copious hemorrhage with strong, regular pains. Applied tampon, and gave teaspoonful doses of fl. ext. viburnum. Symptoms subsided, and the soft, pulpy os, which was dilated to the size of a silver shilling, contracted firmly. Four days after, hemorrhage and pains returned and yielded to same treatment. Signs of life in fœtus appeared in due order of time, and the case promises to go to full term.

Mrs. —, aged 32 years; sixth pregnancy. Has never before carried a child to full term, and only once as far as the end of eighth month. On March 18th, in the 20th week of pregnancy, symptoms of abortion developed. She had of her own responsibility taken four one grain opium pills and made anodyne applications, which failing to check the trouble, she was advised to take teaspoonful doses of fl. ext. viburnum which soon afforded the desired relief.

April 23d. A distressing gastric catarrh attacked her, by which she was tried severely. During its continuance of several weeks, the violent retching and vomiting frequently developed uterine pains and contraction, and on one occasion very considerable dilatation of the os. In each instance, she would resort to the viburnum, which always relieved her, and on July 20th she was delivered of a large healthy boy. The quantity of amniotic fluid discharged at delivery was very large, running from the bedside and had to be caught in a bucket. From beginning to end, this patient took about 4 oz. fl. ext. viburnum.

Mrs. —, aged 35 years; seven children at term and five abor-

tions. On July 14th, in ninth month of pregnancy, uterine pains set in about 10 o'clock in the morning and increased in force and frequency during the day, notwithstanding the repeated doses of opium and hop applications to the abdomen, which her previous experience had taught her to use under similar circumstances. Was called to see her at 8 P. M. She then thought the result inevitable and had made all arrangements for her delivery. The soft, pulpy os was dilated to the size of a silver half dollar, the foetal head within easy reach and the membranes engaged in the os. She was advised against her convictions, as she thought it useless to take the viburnum. One dose was given and repeated in one hour, the pains began to subside and a third dose checked them entirely. She completed her term without farther accident, only once again needing a single dose of the medicine, and on August 12th was delivered of a healthy girl. In this case also, the quantity of the fluid was above the average.

Mrs. —, aged 26 years; aborted in first pregnancy at three months in January, 1878. In the 20th week of pregnancy, in January, 1879, had symptoms of abortion, which yielded to opium, chloral and anodyne applications. Subsequently, she suffered greatly with gastric catarrh and on March 22d, when called again to see her, she had been in regular pain for six hours, and as in preceding case, was so confident that she would miscarry, that she had made preparations for that result. The os was not quite so largely dilated, but otherwise the same as in preceding case. It yielded to four doses of viburnum, and she had only occasionally to resort to the remedy during the remaining time, until May 2d, when she was happily delivered. The fluid in this case was normal in quantity, but she had adherent placenta.

Mrs. —, aged 20 years. In last month of first pregnancy, living 12 miles in the country. I was requested to prescribe for her on October 18th. She had not slept for 36 hours; had had a slight convulsion at noon, and another at midnight before the medicine reached her, and another two hours later. She was given 20 grs. doses of bromide potash and 10 gr. doses of chloral. Saw her at noon of the next day. She was conscious, but had agonizing pain in the head, and as yet, no sleep. Bled her freely, which relieved the pain of head, and also the uterine contractions, which had

existed for several hours. Repeated bromide and chloral doses, which failed to produce sleep, and at 4 P. M., uterine pains again set in. There was but little dilatation of the os, and she was given four doses of viburnum at one hour's intervals, which checked the contractions and she soon fell asleep. During the remaining thirteen days of her pregnancy, she took two ozs. fl. ext. viburnum, and on November 1st completed her term, and was delivered without accident or complication.

Viburnum belongs to the neurotic class of medicines, which Headland defines as, "passing from the blood to the nerves or nerve centres, and acting by contact with the nerve; and are general or special in their effect." It is suggested as a possible cause of this different effect, that there "may be a chemical or mechanical difference in the structure of the nerves." Dr. Pareira thinks that, "they act as ganglionics, and affect that part of the system, supplied by the sympathetic nerve." Ergot is the opposite to viburnum in its influence on the special nerves of the uterus; the former acting as a stimulant, the latter as a sedative. The action of the uterus under chloroform shows that it is controlled by both reflex and ganglionic nerves, and that it is only the operation of the former, which is suspended whilst that of the latter goes on uninterruptedly, and labor proceeds as regularly as though the process depended exclusively on the ganglionic nerves. It is on the ganglionic nerves of the uterus that viburnum appears to act, for it impresses and promptly suspends the contractions. Its action also seems special, for its effect on the general nervous system is slight, and only noticeable in the more quiet and composed manner of the patient, which may be its indirect result by suspending uterine pain and contraction.

So also in its influence on hemorrhage which may be relieved by checking the contraction, and thereby preventing farther detachment of the placenta. Respiration and digestion are not appreciably influenced by it, and I observed but one instance, in which the circulation was affected; after the fifth dose the pulse fell from 90 to 60 beats. The medicine may be extended in its application to the congested and neuralgic forms of dysmenorrhœa, and in my hands has proved an admirable remedy.

There are, doubtless, other conditions, to which a more enlarged

experience will prove its adaptability, and its usefulness may become as varied and valuable as is ergot, which at no very remote date, was viewed only as an oxytocic, and now has a range of application as wide as almost any remedy of ordinary use.

TUBERCULOUS* DEGENERATION OF THE OMENTUM,
WITH PERITONITIS AND DISEASE OF THE UTERUS
AND ITS APPENDAGES.

By F. PEYRE PORCHER, M. D., in charge City Hospital, Charleston, S. C.

S. R., æt. 49, had been for several months an inmate of the hospital. The peritoneal tenderness was so great that it was impossible to make a thorough examination; but as there was great tenderness in the left hypochondriac space, with induration and thickening of the neck and fundus of the uterus revealed by a vaginal examination, the supposition was that it was a case of ovarian tumor. Mild alteratives, consisting of Dr. Louis' method of using mercury, 1-12th of a grain with 1-3d of opium coupled with supportive treatment, were administered, and to promote resolution and absorption, plasters of mercurial and iodine ointment were applied to the abdomen. She died June 15th.

Autopsy.—There existed peritoneal ulceration and adhesion, with deposits of plastic lymph and tubercular deposits in the coats of the intestines. The appearance presented by the great omentum was extraordinary and most instructive. It formed an extensive tumor an inch in thickness and adherent to the inner walls of the abdominal muscles; and gave rise to the dulness on percussion which had been repeatedly observed before death. It consisted of a yellowish, somewhat fibrous, fatty looking substance and tuberculous in appearance, and was very instructive as a pathological specimen, in as much as we are taught by its examination not to ascribe all induration met with in this region of the body to an ovarian origin; and

*I have used the word "*tuberculous*" and "*tubercular*" as equally proper.

also give an example of the extensive deposition of tubercular matter. The uterus, however, was found enlarged, hard and ulcerated, the fallopian tubes hard and firm, the ovaries diseased, but little enlarged and with small abscesses filled with pus. Adhesive inflammation had existed very generally, for the liver was glued to the diaphragm and to the neighboring structures and the spleen closely adherent to the stomach. The kidneys were enormously engorged. There were also tubercular depositions in the lungs with engorgement almost amounting to hepatization—with a large quantity of fluid in the pericardium; pharynx and larynx healthy; brain normal.

The next case which I will also briefly relate afforded another illustration of tubercular deposition occurring in various parts of the body which give rise to dull sounds on percussion and which might mislead in the formation of our diagnosis.

Tubercular Growth in the Cavity of the Abdomen.—M. W., a female, æt. 35, after a brief stay in the hospital, where she was treated with cod liver oil and revulsives, with nourishment, died June 8th. The entire left lung which was gristly to the touch, was filled with miliary tubercles and yielded a serous effusion; cavities existed in the apices of both lungs. Two quarts of a pale colored fluid was found in the cavity of the abdomen, which, as is almost always the case with such effusions, coagulated under the application of heat and nitric acid. Two large tubercular masses, as in the case just related of S. R., presented a hard, yellowish appearance. They were seated over the *psoæ* muscles just under the crest of the ilium on each side. They were five to six inches long and two to three wide, lobulated in structure, resembled organized deposits and would have given dulness on percussion.

I have been taught by these practical observations in pathology, to look with more readiness for the manifestation of the tubercular diathesis in every portion of the system; but more particularly within the cavity of the abdomen and *external* to the intestines.

I make the following extracts from my Hospital Case Book:

FALL FROM A HEIGHT OF SEVENTY FEET—RECOVERY.

J. D., seaman, aged 23, admitted April 19th., fell from the mast head at the height of 70 feet, upon the deck. In falling he struck a beam which caused a slight abrasion of the skin over the “gluteal”

region. There was a slight bruise on the shoulder and on the right foot, and a small contusion of the scalp—no bones were broken or dislocated—he cannot stand, and complains but little of pain. He walked a mile April 23d.

BLADDER OF FIVE MONTHS FŒTUS FILLED WITH FLUID.

Examination of urine from bladder of fœtus: pure, white, transparent—under heat no change—with nitric acid no effervescence, hence no ammoniaco-magnesian phosphates present; slightly clouded showing a mere trace of albumen; no bile or purpurine obtained by tests and reagents.

HEAD PRESENTATION ASCERTAINED ONE MONTH BEFORE DELIVERY,
WITH DILATATION OF THE OS UTERI.

Mrs. J., received August 1st. By vaginal examination in supposed labor pains, the finger entered into os dilated one and a half inches, reached the membranes, and enabled me clearly to ascertain a head presentation. No farther advance was made in the labor by September 1st.

AUTOPSIES AT CITY HOSPITAL.

Among the pathological points of interest elicited at the several examinations made before the students in attendance (and post-mortem examinations were made in nearly every case of death at the hospital) there are two or three I think worth noting briefly.

Typhoid Fever.—The autopsies in four cases in which the treatment by acid was not used, a high degree of inflammation of the intestines, the glands of Peyer and Brunner not being enlarged or specially involved, was found to exist; with no other lesion to account for the emaciation, wasting and death. From 14 to 20 inches of the mucous membrane of the small intestines were inflamed and ulcerated in two cases. These occurred among feedmen, in whom there was very little or no fever, simply exhaustion, absence of appetite and inability to excite the vitality of the system by the means used, viz.: turpentine, ammonia, acetate of potash, stimulants, blistering and nourishment.

Many cases met with subsequently and presenting almost precisely the same train of symptoms, with the addition in three of them of delirium, recovered under the use of nitro-muriatic acid, as detailed in the note which follows:

Nitro-Muriatic Acid in the Treatment or Prevention of Typhoid Fever.—In some forty or fifty cases of typhoid fever occurring for the most part upon negroes exhausted by exposure and privation of every kind, I have found the use of nitro-muriatic acid (with brandy and nourishment) more effective as a prophylactic and for its curative effect than turpentine or any other agent—even when brandy has been given in conjunction with them. Long accustomed to the use of acids in adynamic fevers and in diseases of a low type accompanied with wasting discharges, I was more particularly induced to try the effects of the combination after reading the admirable paper detailing the treatment of cases of typhoid fever by Dr. DaCosta, of Philadelphia.

MISCARRIAGE AND DEATH RESULTING FROM INFLAMMATION AND SUPPURATION CAUSED BY THE PRESENCE OF MEDICINAL SUBSTANCES IMBEDDED IN THE WALLS OF THE APPENDIX VERMIFORMIS.

Mrs. B., entered the hospital July 27th, complaining of uterine pains, threatened abortion, and pain in the left hypochondriac space. It was supposed she had suffered from injury. The treatment, which was only palliative, to prevent the threatened miscarriage, consisted for the most part in enjoining rest and giving opiates. She was delivered of a five months foetus within three days after her admission; and died very suddenly and unexpectedly in 14 hours afterwards.

Inflammation of the the omentum and intestines was found to exist, and a large quantity of purulent fluid in the abdominal cavity, with deposits of plastic lymph. The purulent fluid was found to proceed from an abscess existing in the walls of the appendix vermiformis at the point where she had complained of pain upon admission.

Five or six hardened pills (none of which were administered in this hospital) were found imbedded in the walls of the appendix, and the irritation caused by these seemed to furnish the only plausible explanation of the ulcerative inflammation which produced her death. There were no marks of injury external nor internal.

IODIZED PHENOL—"BATTEY'S FORMULA"—IN ECZEMA MARGINATUM.

By W. J. H. BELLAMY, M. D., Wilmington, N. C.

R

Iodinii cryst, $\frac{3}{4}$ ss.

Ac. Carbolie cryst, $\frac{5}{8}$ j.

Mix and combine the two by gentle heat.

The above formula of the renowned Battey of Rome, Ga., provides a combination which has probably given more satisfaction to the gynæcologist in uterine therapeutics than any agent that has been suggested for many years past. It is not alone useful for such affections, as concerns the specialist alluded to, but as I am prepared by quite an extensive experience with its use to say it has given me more satisfaction in the management of those intractable forms of skin disease characterized by intolerable itching, than any of the much vaunted parasitocides so much in use by the dermatologists of the present day. Most particularly in that disease, the pathology of which is now well understood, viz. : eczema marginatum, and which, for such a long time has almost baffled the skill of the country practitioner, is this agent most useful. In most cases of "skin disease," when the diagnosis is not clear but where itching is the prominent symptom, and when it is reasonable to suppose the presence of some parasite, it is a most useful remedy. It allays itching, it relieves pain. The anæsthetic property of the carbolic acid prevents the agents from giving much more than momentary pain.

My rule has been at first to dilute it with glycerine equal parts, making the application twice in twenty-four hours, touching every point of irritation thoroughly by means of an ordinary camel's hair pencil, or glass rod (brush.) It may be used according to the sensibility and idiosyncrasy of each case, diluted, or of full strength. When used, as I have used it often, of full strength, it causes only an ex-foliation of the epidermis, no ulceration or destruction of any great amount of tissue in any case, and no pain or annoyance to the patient, the relief of the itching and presence of the distressing malady, producing so much satisfaction. It may be remarked that in sulphurous acid we have an agent as potent, but how long can

we keep sulphurous acid as such? How often can we get sulphurous acid when prescribed? Were we at the door of a 'Squibbs', with each patient, and had we the laboratory and conveniences of the expert and proficient chemist and were qualified to make our own acid as we needed it, then probably we would need no addition to our therapeutics in the management of such skin diseases as these we are considering. In almost every case where I have resorted to the phenol prescription above, the patient has been a sufferer for many years, and has gone from one to the other of the profession.

THE MICROSCOPE IN THE WITNESS BOX.

As the New York *Tribune* says, the scientific aspects of the evidence against the Rev. Mr. Hayden, of Madison, Conn., for the murder of Mary Stannard, are truly remarkable; indeed the microscopic exhibition of arsenic and the comparison of arsenical crystals show that the law has a powerful auxiliary in chemistry. After the arrest of Mr. Hayden, and the disinterment of the remains of the dead girl for examination, it was claimed that all of the arsenic which Hayden had bought was still in a box in the barn. There a box was found containing a full ounce. It was shown that the arsenic found in Mary Stannard's stomach could not have been taken from this box. At this point recourse by the prosecution was had to Prof. Dana, who visited England, studied the manufacture of arsenic, and then, by the use of his microscope on the crystals, demonstrated that the arsenic from the girl's stomach was an entirely different lot from that hidden in the barn, and that it was identical with the arsenic sold by Tyler, at the time when Hayden is known to have bought his ounce. The conclusion sought to be established is that part of the arsenic bought by Hayden was used to poison the girl, and that the rest was flung away, and that the barn arsenic was bought elsewhere afterward merely as a blind. The crystals of the stomach arsenic are three or four times as large as those of the barn arsenic, but none of them are large enough to be visible without the microscope. Hereafter criminals will do well to recognize in science one of the agents of possible detection.--
Scientific American.

SELECTED PAPERS.

NOTE ON ERGOT OF RYE (*SECALE CORNUTUM*), OR
CLAVICEPS PURPUREA (TULASNE) CRYPTOPHYLA.*Subclass, Fungi; Order, Ascomicetes; Family, Pyrenomycetes.*

By CARL JUNGK, Ph. D., Detroit.

This fungus which infects different species of the graminacea or grass tribe has three different stages of growth which are very excellently and minutely described in Hager's commentary to the *Pharmacopœia Germanica*.

The first stage of development consists in the formation of sphaceliæ, and takes place at the time of flowering. The sphacelia appears as a soft yellowish fungous mass, called rye honey-dew, somewhat tough and of a rather disagreeable odor.

This mass takes possession of the ovary or its immediate neighborhood, and products of the decomposition of the chemical components of the ovary furnish its substance, as we find the starch contained in the ovary disappear, and a subsequent breaking up or dissolution of the structure of the organ takes place.

On the sphaceliæ, when subjected to a magnifier, can be discovered numberless oval corpuscles called spermatie or stylo-spores. It may be inferred, therefore, that the sphacelia is secreted by the mycelium whose hyphen penetrates and honeycombs the lower portion of the young ovary. At the same time it may be noticed that the ovary undergoes a process of gradual obliteration or consumption by the parasite as it exhibits breaks in the continuity of its structure, having folds and depressions not seen in the healthy organ. This appearance is due to the spermagonium layer. Out of this cellular layer or tissue there rise a multitude of basidia like tubes on whose summit may be discovered a chain of longish, oval cells or corpuscles (the spermatie or stylo-spores already referred to).

Subsequent to the drying out of the sphaceliæ the mycelium and spermatie appear as a whitish fungous web covering the remains of the ovary.

The second stage of the parasite's growth is the formation of the sclerotum, which furnishes in a sterile strôma the officinal ergot.

The ovary is by this time entirely destroyed as far as its elementary and anatomical structure is concerned, and consequently its growth and nutrition have ceased.

In its structure, however, the mycelium continues its development, existing separately and without further contribution from the ovary or its mass, arriving by a process of growth and condensation of structure at a point where it presents to view a compact body white within and violet black without, a sterile stroma which arises out of the floral bracts and crowns the summit of the mycelium.

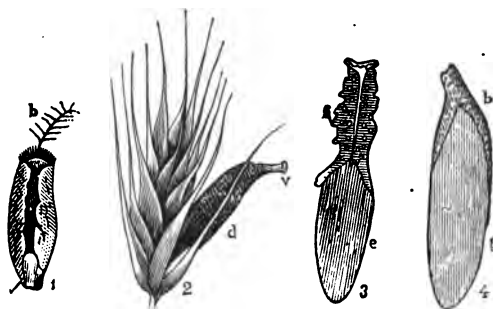
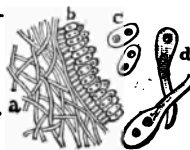
(a b) A section of a cutting through the spermatogonium layer.

(a) Hyphen.

(b) Hymenium with spermatie or style-spores. a

(c) Spermatie.

(d) Spermatie and filament prolonged thereby.



1. Vertical section of fruit of rye pierced by a hyphen, a point of attachment of the sclerotium.

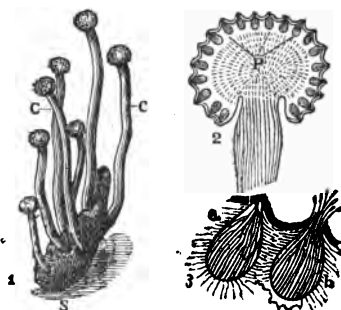
2. Ear of rye showing the sclerotium.

3. Sterile stroma or sclerotium bearing on its summit the spermatogonium or sphacelia layer.

4. The same at a more advanced stage of development. (g) Sclerotium. (b) Sphacelia.

The third stage of development the formation of the cordiceps has only a theoretical interest, consisting in the fungi in the growth of the pyrenomyces. This takes place either in autumn or spring whenever it arrives at a propitious point for development. After the lapse of a few weeks the violet downy covering of the stroma loosens off here and there in flakes which curl over, and in the

exposed places arise small whitish heads which assume at first a grayish yellow, then a dirty violet color, and are finally presented to view as thin shining stems, pale violet colored and carrying on their tops one, rarely two, warty buttons. These cordiceps buttons develop, in ripening, millions of spores.



CLAVICEPS PURPUREA IN THIRD STAGE OF DEVELOPMENT.

- i. Sclerotium and spore capsules.
- s. Sclerotium layer.
- c. Fructified cordiceps layer.
- ii. Vertical section of the head or button of cordiceps, showing the perithecia.
- iii a. Two perithecia producing spore filament containing spores, and closed.
- b. Opened and ejecting spores.

The officinal ergot is represented by the second stage of development, and should be gathered in dry weather several days before the harvest. The overripe ergot has but little value medicinally. If well dried at about 25° C., which equals 77° F., in the shade, and protected from the air, it can be preserved in closed vessels for a long time.

The attention of the medical profession seems to have been first attracted to the properties and efficiency of ergot during an epidemic of ergotism which prevailed in Hessa in the year 1596, and was attended with the loss of many lives. The cause assigned was the consumption of ergotted grain in bread. In 1688, Camerarius wrote of midwives in Germany that they were in the habit of using ergot to promote delivery. The Chinese are also said to have used it from time-immemorial for the purpose of producing abortion.

A number of analyses of ergot have been made, and at one time its action has been ascribed to the fixed oil it contains; at another, propylamin has received the credit; again, the ecobolin and ergotin have been thought to be the active agents, but so far the identity of the principles causing its special contractile effect is still in question. In order, therefore, to produce an active pharmaceutical preparation of ergot, we must endeavor to present therein, if possible, all the principles, with the exception of the fixed oil, which in a state of purity and free from extraneous matter, is without doubt inactive.

That a preparation of ergot, when warmed for some time with soda or potassa, contains propylamin is true, but there is no evidence that this body is contained ready formed in the ergot, as the contrary is the case, and it can only be regarded as a product of decomposition, not as an educt. Propylamin (trimethylamia) is the result of decomposition of a number of organic combinations, just as is ammonia, and cannot, therefore, be regarded as a constant or active ingredient of ergot.

In a good and properly prepared extract, or fluid extract of ergot I have never been able to discover at once a development of propylamin after addition of free alkali, it being only possible to detect it after the lapse of some time, or prolonged heating.

If however, an extract be prepared from ergot that has become old, or been imperfectly dried, the presence of propylamin may be detected during the process of manufacture.

As concerning the active constituents of ergot, the following facts have been demonstrated by different investigators:

1st. An aqueous extract of good ergot, *i. e.*, an infusion, contains all active parturient principles.

2d. An alcoholic extract has very little of the parturient properties, containing, however, principles exerting very deleterious and poisonous effects.

The exhibition of ergot in so many different diseased conditions has led to a diversity of opinion regarding its value and efficiency, with the exception of its application in metrorrhagia, and in case of its administration in poisoning by carbonic oxide its efficiency depends on the contractile effect exerted on the blood-vessels and consequent increase of blood pressure in the arteries, while the action of the heart remains normal, or is unaffected.

This diversity of opinion is due most likely to the difference in character and value of the preparations used.

In any case it is clear that an extract, fluid extract, or so-called ergotine, should be prepared with a consideration for the method of application and intentions of its use.

The presence of lactic acid in fresh ergot is not demonstrable, though it appears as a product of fermentation if the preparation be exposed to favorable conditions. A perfectly fresh aqueous infusion of good ergot is neutral; after the lapse of 5-10 minutes, already acid; in from 6-12 hours lactic acid may be detected, and in several days butyric acid makes its appearance. This fermentation does not exert a destructive action on ergotin, ecboilin or resin, but it does on the sugar and red coloring matter.

We may conclude from these premises that ergot contains in itself a principle capable of provoking the lactic acid fermentation, and we may look to this as an incentive to the readiness with which ergot itself and poorly prepared extracts undergo decomposition and change.

We may further conclude that the appearance of lactic acid and butyric acid, and also propylamin in ergot, or its preparations, is due to its decomposition already begun and in progress. If we consider that in composition the lactate of ammonia and trimethylamin differ only in amount of three atoms of oxygen ($O=16$), we may readily infer the presence of either one or the other to be due to difference in mode of treatment (or maltreatment) and the stage of decomposition arrived at.

As a matter of interesting reference and possible value to the practitioner, I append below a number of approved formulæ which have been used by some of the best authorities in the administration of ergot:

1. *Mixtura Ergotine Bonjeani.*—(*Potio d'ergotine de Bonjean.*)

R.

Ext. ergot, 15 grs. fl. ext. ergot, fl. 3 ijss.

Aq. fl. ʒ ij.

Syr. flor. aurant. 3 vi.

Dose. A tablespoonful a few times a day. As a hæmostatic, a tablespoonful every ten to fifteen minutes.

2. *Mistura Hæmostatica*.—*Shæller*.

R.

Fl. ext. ergot, fl. 3 iss.
 Fl. ext. ipecac, grs. viii.
 Aquæ, fl. ʒ viii.
 Tinct. opii simpl., fl. ʒ j.
 Acid phosphoric, m. xxxv.
 Syr. cinnamon, fl. ʒ x.

A tablespoonful every half to one hour.

3. *Mistura Hæmostatica*.—*Waldenburg*.

R.

Fl. ext. ergot., m. lxxv.
 Fl. ext. cinnamon., m. xxxvi.
 Aq., fl. ʒ v.
 Tart boraxat, ʒ ijss.
 Syrp. cinnamon, fl. 3 vi.

A tablespoonful every one or two hours in chronic metrorrhagia and incontinence of urine.

4. *Mixtura Obstetrica*.—*Staoross*.

R.

Fl. ext. secal. cornut., fl. ʒ ss.
 Aq. fl. ʒ viii.
 Ext. opii, grs. viii.

A tablespoonful every ten minutes.

5. *Mistura Styptica*.—*Lange*.

R.

Ext. ergot, grs. xv.
 Tannin, grs. xxx.
 Water, fl. ʒ vi.
 Syrup, fl. ʒ j.

A tablespoonful every hour in hæmaturia.

6. *Pilulæ antihæmoptysica*.—*Lebert*.

R.

Ext. secal. cornut.,
 Tannin aa, fl. 3 j.
 Ext. opii grs. xv.
 Succ. lixurrit, q. s.

Make 90 pills. One pill every two hours.

7. *Pulvis antiblennorrhœa*.

℞.

Ext. secalis cornut., grs. viii.

Ferr. oxydat., grs. lx.

Camphor, grs. iv.

Vanillæ saccharat., 3 iiss.

Divide into 50 powders. One powder every morning and evening in chronic blennorrhœa.

8. Pilulæ antidysmenorrhææ.—*Gallard*.

℞.

Ext. secalis cornut.,

Ferr. oxydat., āā. grs. lxxv.

Ext. opii, grs. iv.

Flat pilulæ, 30. Two pills twice or three times a day before each meal.

9. Pilulæ Styptica.—*Harios*.

℞.

Secalis cornut., grs. xv.

Acid tannin, grs. iv.

Digitalin, gr. $\frac{1}{2}$.

Fiat pilulæ, 10. One pill every three hours.

10. Trochisci Ergotæ ferrata.

℞.

Ferr. pulv., grs. cl.

Secalis cornut., grs. lx.

Massa cacaotin, ʒ iij.

Fiat trochisci, 100. One three to five times a day in incontinence of urine.—*New Preparations*.

OVARIOTOMY.*

Dr. Bozeman gives us a very instructive pamphlet strongly marked by personal opinions, but perhaps all the more valuable for that.

He institutes a comparison between Schröder's successes under

*Remarks on Ovariotomy, with Relation of Cases and Peculiarities of Treatment. By Nathan Bozeman, M. D., New York.

the antiseptic system, in which the results—80 per cent. of recoveries—were highly gratifying. But M. Spencer Wells long before this, had a series of twenty-seven successful cases. As satisfactory as these may be considered, Mr. Keith, of Scotland, achieved a more brilliant result, accomplishing under the Lister method 96 per cent. of cures.

Mr. Keith says: "Since 1876, every operation has been performed with all Mr. Lister's care, under the carbolic acid cloud, and I shall never go back to the old way." He performs all his operations, however, with the closest attention afterward to the details of surgical treatment. No other symptom has attained anything like Mr. Keith's successes in a large run of cases, and Dr. Bozeman doubts whether the mortality of this operation in the hands of all surgeons is below 20 per cent.

It is, therefore, the general mortality of 20 per cent, instead of 4 per cent., as shown by the individual death-rate of Mr. Keith, that is to be lessened by improved methods of treatment, and the question now is, how can this be best attained? Death results, in about seven-eighths of all cases, from shock or collapse, hemorrhage, exhaustion, peritonitis, and septic intoxication, pyæmia and in a large extent within the first three or four days. The late Dr. Peaslee, in speaking of the causes of death after the operation of ovariectomy, says: "Thus shock and collapse, when fatal prove so in more than one half the cases within 48 hours; and in more than two-thirds within 96 hours. About one-half of those who die of hemorrhage perish within 24 hours, and seven-eighths within 72 hours. Acute peritonitis proves fatal in 12 to 24 hours, and on to the eighth day; nearly one-fourth of the whole number dying on the third day alone, and nearly two-thirds of the whole within the first 72 hours. Asthenic peritonitis proves fatal from the ninth up to the 21st day, or even later.

The proper plan of treatment is then next treated.

Dr. Bozeman discusses the application of ice or cold water affusions to the abdomen as a means of reducing the temperature and lowering the pulse after ovariectomy. He does not deny that they accomplish these objects to almost any desired extent for the time being, but he thinks the vital forces are weakened, and the integrity of remote organs is impaired by their use, especially when long con-

tained, and he, therefore, regards them as more powerful for evil than for good.

The experience of Dr. T. G. Thomas with the use of cold water is reviewed in the following paragraphs :

1. That sulphate of quinine and the salts of salicylic acid, if antipyretic at all, are only so slightly as not to entitle them to any confidence in the treatment of peritonitis and septicæmia resulting from ovariectomy.

2. That cold-water affusion over the abdomen is antipyretic in the highest degree, and deserves to take precedence over all other known methods as a reliable means of controlling the peritonitis and septicæmia, on account of the simplicity of the method and the ease with which it can be carried out upon Kibbee's cot.

3. That the dangers of cold-water affusions over the abdomen, if there be any incident to the practice, are so slight as only to require ordinary precautions for their avoidance, and that they should not stand in the way of the employment of so valuable a method to control the hyperpyrexia of peritonitis and septicæmia.

4. That cold-water affusions over the abdomen, while they are not directly curative in themselves of peritonitis and septicæmia, yet are indirectly so to a higher degree than any other known agent by preventing disorganization of the blood and serious impairment of the vital functions.

Dr. Thomas' experience, however, resulted in a mortality of 25 per cent., and, Dr. Bozeman continues, is certainly not promising when compared with Mr. Keith's rate of ten per cent.

A fatal case is then related in which the author employed cold-water, showing at the autopsy, peritonitis and pleuro-pneumonia, with effusion, and he then pertinently asks—"may we not in attempting, with so powerful an agent, to disarm peritonitis and septicæmia of that dire phenomena—high pulse and high temperature—on the one hand, directly favor or produce, on the other hand, the identical complications and lesions mentioned?" These are the author's convictions.

The treatment before the operation, as employed by Dr. Bozeman, consists in attention to the general health. Quinine is given, 15 grains the night before the operation, and 10, with a grain of opium the following morning, after the lower bowels have been

emptied by a lavement of warm water containing a small quantity of castile soap, and common salt.

After the Operation.—The remedial agents to be employed “are principally quinine, opium, brandy and whiskey, champagne, and any other forms of medicine required or best suited to the individual case. After the patient has recovered from the anæsthetic, all sources of annoyance or direct irritation, of whatsoever nature, are to be avoided as far as possible, and none among them I conceive is more worrying than that of the hypodermic syringe. The use of this instrument I would, therefore, restrict to the narrowest limits, trusting to other modes equally efficacious for introducing morphine into the system. But can it be said that the stomach affords this facility to the desired extent? Certainly not. But this and the rectum together unquestionably do to a very high degree, not only as regards medicines, but also articles of food. When both of these fail, and the patient is *in extremis*, then the hypodermic syringe may play an important part in introducing into the system not only morphia, but quinine, brandy or ether. The form of anodyne which I prefer to all others is Squibb’s compound liquor of opium. It is more uniform and reliable in its strength than laudanum, and for that reason, if no other, is more valuable. The object to be attained by this preparation of opium is not only the control of pain, but the lessening of general reflex nervous irritation. It also antagonizes the unpleasant effects of quinine upon the brain, thus giving to the latter greater potency in controlling not only cardiac and pulmonic action, but the process of disassimilation or tissue changes upon which depend, it is believed, the excessive body heat. My rule now is to administer per rectum, as soon as the patient is removed from the operating table to her bed, one drachm of the above preparation of opium with ten grains of sulph. of quinine in half an ounce of acidulated water. This will usually be found sufficient to lull the attending pain after the effects of the anæsthetic are passed. The dose is afterward reduced to half a drachm with same quantity of quinine, and repeated every six hours. Should severe pains develop in the intervals, the hypodermic use of six to eight minims of Magendie’s sol. of morphine is allowed. According to my experience, such emergencies arise only occasionally, and often not at all, in the entire after treatment.

This quantity of opium, about four and a half grains in the 24 hours, keeps the patient in a quiet, drowsy state, ready to take nourishment per orem and rectum at almost any moment, and again to relapse into the same somnolent state, seemingly without disturbance. It is seldom necessary to increase the dose of quinine mentioned. This quantity, 40 grains in the 24 hours, with the 25 grains given the night and morning preceding the operation, will rarely fail to produce its specific effect within 36 or 48 hours, just at the time it is needed to infuse the blood with life-giving and life-saving qualities, and thus control or moderate the rise of temperature. I have seen as small a quantity as 32 grains of quinine, given in this way, followed by thorough cinchonism, with almost immediate reduction of both pulse and temperature; but usually double or triple this quantity will be required to produce the desired effect. I am satisfied that the reason why those who have tried and condemned quinine as useless in controlling hyperpyrexia after ovariectomy, is because they have not commenced its use early enough, have not properly combined it with opium, or have not given it in sufficient quantities. The disadvantages of waiting until peritonitis and septicæmia are developed before commencing the use of the remedy, and the advantages of giving it early in combination with opium by the rectum, are so evident, it seems to me they require only mention here.

But quinine and opium are not the only remedies I give by the rectum after ovariectomy. Brandy, in doses varying from one to four drachms, at intervals of three hours, may thus be administered with the greatest advantage when the stomach is irritable and stimulation is called for.

Second, the kind of fluid to be employed after ovariectomy. The introduction of food into the system by the rectum—rectal alimentation—is of the greatest importance to insure continuous support of the vital forces, and the best results from quinine and opium as regards the control and moderation of fever. The articles best suited for this purpose are unquestionably beef-tea, mutton-broth, chicken-broth, and mashed beef. The last named I greatly prefer, as it far exceeds in efficiency any of the other forms of animal nutriment mentioned. It is prepared by first chopping up the beef very fine, say three pounds, and then putting the whole into a wooden

bowl and mashing it with a pestle. Now, cold water, say a teacupful, is added, and thoroughly incorporated with the mass. This being done, it is next placed in a cullender, and all the juice pressed or rubbed out with as much of the muscular fibre as will pass through the holes. Again the juice is placed in a fine wire strainer and thus cleansed of all the larger particles of meat-fibre that would clog or otherwise obstruct the pipe of the syringe. Thus is obtained about sixteen ounces of juice, which is believed to contain the nutritive elements of about one-third of the three pounds of beef employed. For keeping, it should be set in a cool place or upon ice, and for use warmed over a spirit-lamp or otherwise. It may be administered alone or in combination with pancreatine. In the proportion of two ounces to one drachm of the latter an excellent emulsion is formed, which is about the quantity to be administered at a time. Its use should be commenced three hours after the first dose of quinine and opium, and it also is to be repeated every six hours. If it manifests any tendency to irritate the rectum, so as to provoke a discharge, twelve to fifteen drops of the preparation of opium indicated (liq. opii. comp.) must be added. In this event, the quantity of the latter used with the quinine is to be lessened in like proportion, unless there be a demand for more than two drachms in the twenty-four hours, which is hardly probable. When the necessity arises, brandy may be combined with the emulsion in quantity varying from one to four drachms. The emulsion may also be used as a vehicle for the quinine and opium instead of the acidulated water, using for the purpose half to one ounce. In this manner from eight to ten ounces of the emulsion are introduced into the system in twenty-four hours, equal to half a pound or more of beef.

Thus the rectal alimentation, medication, and stimulation gradually carried to the point of giving the greatest amount of nutrition and support.

But again, ingesta by the mouth, when it can be tolerated, is no less important than by the rectum. I only mention this function last, natural as it is, because it is so liable to be disturbed or interrupted at the outset of the treatment. The stomach, almost always irritable from the anæsthetic for the first six or eight hours, can only be made available for the introduction into the system of med-

drines and food under the most careful watching and with the greatest precautions. Too early resort to it for either purpose is highly prejudicial to success, and oftentimes leads to irreparable mischief. One cannot be too cautious, therefore, in selecting such articles, both of medicine and of food, as may be best adapted to the ends in view and in testing with them the strength of the stomach.

As regards stimulants, brandy, whiskey, and champagne are the best and most available. Whichever one may be selected, it is to be given in small quantities, and often repeated. When tolerance of the stomach is assured and necessity requires it, the dose can be gradually increased, but under all circumstances this must be done cautiously, otherwise much valuable time must be lost. The same thing is true of all medicines employed to meet special indications in the after treatment.

Much discrimination is called for in selecting articles of diet and in regulating the quantities to be given. Rice-water, barley-water, milk, milk-and-lime water, milk porridge, beef-tea, chicken broth and mutton broth are the articles to be relied upon.

Of these, milk alone, or milk with lime-water, or milk in the form of porridge, is by far the most valuable and reliable in the beginning of the after treatment, and given with the same precautions pointed out with reference to the use of stimulants, it seldom fails to give satisfaction, especially when used supplementary to regular rectal alimentation. Beef-tea and broths are equally serviceable after a few days, and may be alternated with the milk, or given alone, according to the fancy of the patient or the wish of the surgeon to discontinue rectal alimentation. Given in teaspoonful or tablespoonful doses and repeated every half or every hour, considerable quantities of any one of the articles named may be given in the 24 hours without disturbing the stomach or seriously annoying the patient. The patient being constantly under the influence of opium, given by the rectum, sensitiveness, not only of the stomach, but of the entire alimentary canal is held in abeyance and a state of almost continuous slumber is maintained. Borborygmi and tympanitis, usually so constant and persistent after ovariectomy, under the expectant plan of treatment, show themselves in this state of quininism and semi-narcotism only to a very slight

extent, and often not at all. These are advantages which cannot be too highly estimated in any course of treatment. The meteorism of typhoid fever, a like condition, my friend, Dr. Alexander Hadden, of this city, informs me he controls with an equally high degree of certainty by the employment of salicylate of soda.

The prevention of shock after capital operations by previous administration of large doses of quinine, as claimed by Dr. Hunter McGuire, of Richmond, has its explanation no doubt in the profound and salutary effect which the remedy produces upon the cerebro-spinal and sympathetic nerve-centres. That shock from the operation of ovariectomy, attended with or without serious loss of blood, is a frequent cause of death, immediately or remotely, there can be no doubt. That quinine does prevent or lessen the tendency to shock in capital operations in a marked degree, I am thoroughly satisfied from my own somewhat large experience with it years ago in the general practice of surgery.

The minute detail of the eight cases which follows, will be read with eager interest by all general practitioners to whose lot may fall the anxious care of a case of ovariectomy. But we have not room to reproduce more than the general remarks on the first six cases which follow :

“An examination of the histories of the series of six cases in which ovariectomy was performed shows the following : The age of the patients varied from 22 to 65, the average being 39½ years. One was married without offspring, two were widows who had borne one and two children respectively, and three were unmarried. In four cases general anæmia and emaciation were marked, and in the other two these conditions were present, but less appreciable on account of the shorter duration of the disease. In five cases percussion over the loins materially aided in the establishment of the diagnosis of the ovary involved. In one case the method failed on account of the increased length of the pedicle and the peculiarity of the fixation of the tumor on the opposite side. In the first two cases no particular attention was paid to the preparation of the system for the operation, further than to use for a few days the warm bath followed by vaseline inunctions and to clear out the bowels the night before. In the other four cases there was more or less preparation ; for example, nourishing and supporting diet was

employed in one; the same and quinine in another; the same with linoture of iron and quinine in a third; and the same with salicin and quinine in the fourth. The time taken for the operations varied from 27 to 62 minutes, the average being 52 minutes. In all the operations the antiseptic method of Mr. Lister was employed. The small incision was adopted in five, and the medium in one operation. In four cases the parietal, omental, and the mesenteric adhesion were extensive, resisting, and difficult to overcome, but unimportant in the remaining two. In three cases both ovaries were found diseased and were removed. In one case an ovary had passed around one of the round ligaments of the uterus and was followed by several coils of the pedicle. In all the cases the pedicle was transfixed with a double waxed carbolized silk ligature, then tied right and left, cut and dropped. No drainage tube was used in any case, and in only one was a tent left in the lower angle of the wound. In five cases the abdominal wound was closed with waxed carbolized silk sutures, made to include the peritoneum. Through mistake the abdominal wound, in one case, was closed with plain silk sutures, and although no harm followed further than suppuration in their tracks, they are not to be recommended. In three cases the resulting peritonitis was violent, in one moderate, and in the remaining two mild. In one of the first two cases there were evidences of inflammatory products in the peritoneal cavity, but with no other result than protracted recovery (this was the Case in which cold-water affusions over the abdomen were employed for 44 hours); and in the other there was suppuration and discharge of pus through the wound on the ninth day, which resulted, as a matter of course, in protracted recovery. In the remaining four cases the recoveries were all prompt. In all six cases the average of the pulse for the week of active treatment was 98; that of the temperature for the same time, 100° F. In five cases free nourishment both by the mouth and rectum was employed, and in one by the mouth alone. In four cases nourishment by the rectum was commenced during the first day, and in two, by the mouth. In all six cases quinine and opium were given in combination, and invariably by the rectum. The quantity of the former given per day varied from 18 to 40, the average being 26½ grains, and that of the latter (liq. opii comp.) for the same period, from 1½ to 2½ drachms,

the average being $1\frac{1}{2}$ drachms. In two cases the remedies were commenced one hour after the operation, in one two hours, in one 18 hours, in one 30 hours, and in one, (the first of all) 72 hours; the changes in time, for the most part in the series, being in the inversed order here given. In four cases decided cinchonism was produced, and in two, if present at all, it was so slight as not to be perceived by the patient.

Of the eight results recorded, seven were complete cures, giving a mortality of $12\frac{1}{2}$ per cent.— $7\frac{1}{2}$ per cent. less than the average mortality attributed in the outset of these remarks to the practice of all operators. Again, counting the number of diseased ovaries removed, eleven, with only one failure by death,—which is a legitimate mode of presenting the subject—and the comparison is placed in a still better light. The failures would then stand at 9 per cent.

These eight cases, with one (successful) previously reported in the *Medical Record*, (Sept. 1, 1866), comprise my entire experience in the operation of ovariectomy, and altogether show a death-rate of 11.11 per cent. Prof. Nussbaum has said that if a surgeon could commence his career as an ovariectomist with the experience of twenty operations, he might expect in the course of time to record a respectable average of success. If the results here recorded teach anything, it is that a mere tyro may do this as well as the self-constituted ovariectomist with his twenty embodied experiences, if he will take the trouble to make himself familiar with the principles of the operation, and is patient and painstaking in all its requirements and details.

I think I have proven by my experience thus far that Professor Nussbaum is in error, and that it is even possible for an ovariectomist to commence with a respectable average of success, if, as stated, he will only take the pains and trouble to do his work well, and above all, to bear in mind the time-honored maxim, accredited to Sir Astley Cooper, "An operation done well, is done soon enough."

I know of no operator in this country who has cured eight out of nine of his first cases—88.89 per cent., the entire mortality being due to cancer; nor do I believe the records of the profession in Europe afford another example of an operator having secured in his first cases eight consecutive successions—100 per cent.

There are many eminent ovariologists both at home and abroad who have had far greater success in a larger number of cases. To this fact I have already alluded. But their great success was not obtained at the beginning, nor can its superiority be used as an argument against a method which so far as it has been tried, has yielded results quite as favorable, viewed from a scientific standpoint.

ENGLISH PHARMACY.

The following from a recent letter of Prof. L. P. Yandell, is rather a remarkable statement respecting the state of Pharmacy in London and would hardly be creditable were it not from such good authority and so direct.


"In nothing is London worse off or more behind the times than in her pharmaceutical preparations. The other day I wanted some citrate of iron and quinia pills, and I was told at one of London's chief retail establishments that pills could not be made of cit. fer. et quinia, or rather that no way could be devised of preventing their running together. Finding argument and instruction useless, I suggested capsules. Positively I do not believe the people of the shop had ever seen a capsule. At any rate they were utterly ignorant of them, and declared they are never used over here. Having no fancy for a solution of ferri et quinia cit., which I was assured was the only proper way to take the medicine, I asked for dialyzed iron, and the article presented was simply shameful. In color it was correct, but it had not one other physical property of dialyzed iron. Instead of being bland and smooth to the taste, it was rough and astringent; and instead of being neutral, it was excessively acid and put the teeth on edge. I asked for Wyeth's dialyzed iron, which is always perfect, but they had none. At several places—all in the West End, the fashionable and rich part of London—I have tried the dialyzed iron, and without exception it is vile and abominable. True dialyzed iron has little more taste than blood; slightly diluted it tastes quite like blood. I am sorry to say that so far as my travels have extended, in America and in Europe, I have found genuine dialyzed iron the very rarest of medicines. Pure it is one of the best feruginous preparations yet discovered. As it is commonly found in the shops it is nasty and without merit.—*Louisville Medical News.*

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED
IN WILMINGTON, N. C.

M. J. DEROSSET, M. D., New York City, } Editors.
THOMAS F. WOOD, M. D., Wilmington, N. C. }

 *Original communications are solicited from all parts of the country, and especially from the medical profession of The Carolinas. Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to our JOURNAL, by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to DEROSSET & WOOD, P. O. Box 535, Wilmington, N. C.*

OUR PROSPECTS.

The NORTH CAROLINA MEDICAL JOURNAL completes its second volume with this number. It was begun at a time when the fortunes of such periodicals were at a low ebb. The excellent Charleston Journal had suspended, and there were few things to encourage the commencement of a new journal. But we had estimated the profession by its previous progressive advancement, thoroughly satisfied that any body of men that could by dint of energy work such reforms as the North Carolina doctors had done in a quarter of a century, would not be found lacking when more progressive work demanded their attention.

The time was drawing rapidly on, too, when preventive medicine was to claim the attention of the profession. The public must receive its impulse in sanitary science through the only class of people to whom such a course was a positive disadvantage, the medical profession—and how was the medical profession to get the ear of the public without the medium of the press?

Furthermore, the profession of the State had formerly a medical journal,—a journal which by dint of superior ability made way against adverse fortune and held on to life tenaciously—only abandoning the field in 1862 when the lack of printing material made it necessary.

The experiment which we begun, not without some misgivings at first and contrary to the advice of some of our friends who had been informed of our design, has taken a strong hold on the profession, and is growing in favor steadily. Our circulation has largely increased and we expect to double our subscription in the coming year.

We promised our readers to keep before them the current of medical science and art, giving them 50 pages monthly. We have made no issue of less than 64 pages, and we have given them as many as 84 pages.

Having shown our earnestness of purpose, we think we have a right to ask the profession of the Carolinas to show their appreciation with their pen and their purse. We desire new subscribers, new contributors, and we also ask that our old friends will still give us their helping hands. For our part we will not relax our efforts, but seek by every means in our power to make our work more acceptable.

With the January number we hope our old subscribers will renew their subscription by prompt remittance, and induce their neighbors to do the same.

CROUP AND DIPHTHERIA.

The distinguishing differences in these two diseases have been agitating the medical public for some years, and more recently the Committee of the British Medical Association made a report, as unsatisfactory and inconclusive as any yet made on the subject.

While we must be careful not to found our theory upon this or any other question before we have studied enough well digested facts to warrant an opinion, there are at times in the experience of

physicians, cases which seem to carry conviction in spite of themselves.

Recently we saw in the same day a case of laryngeal diphtheria and one of membranous croup. Both were fatal. The case of diphtheria occurred in a house where another case of the same disease was in progress. The child, a plump boy, was little over two years of age. On the day after the membrane appeared on the right tonsil there were 105° of febrile heat. The membrane rapidly spread downward into the larynx, and on the fifth day death occurred by asthenia. There was a dull cyanotic hue around the lips and nose for two days preceding death, the temperature remaining quite high, although the thermometric register was not obtained. During the progress of the case the child was fretful, clinging to its father day and night, resisting medicine or food or any attention or inspection, by any other person. The saliva was ropy and viscid and copious, and the nostrils were constantly discharging an acrid mucus.

The same night we were summoned to a male child a little over two years old, living four miles in the country, for whom we had prescribed during that day and the day previous, for croup, by telephone. The treatment was unavailing, and a visit became necessary. Upon our arrival the child had ceased to breathe except at long intervals, was deeply asphyxiated, and had even quit struggling for breath. Tracheotomy was resorted to with the least delay, and after a gush of venous blood, the air rushed in. Soon the respiration was improved, and the cheeks returned to their usual healthy color. Death occurred eight hours after from asphyxia, however, the croupous deposit having extended into the bronchi. A careful examination in this case revealed no sign of membrane at the point of incision for tracheotomy, although sufficient time elapsed for it to form.

This child had had croup the night previous, and had been treated after directions given by us on a former occasion. In the day he was lively enough, engaging in his usual plays, although hoarse. The succeeding evening—the evening of the fatal day—the croup symptoms increased rapidly, and it was on this account we were summoned.

The temperature in this case was three degrees below the normal standard. There was no feter of the breath, there had been no peevishness, no loss of appetite.

Here were two cases running very nearly parallel. There are these differences to be observed.

CROUP.

The duration of the disease dating from the first night was forty-eight hours.

No fever, but a lower temperature.

No fetor of the breath.

No sign of membrane on the fauces.

No expectoration of ropy saliva, no discharges from the nose.

No case of diphtheria in the house or in any neighboring house.

No diphtheritic deposit in the tracheotomy tube, or in the incision, although eight hours elapsed, after the operation, and before death.

A robust child, vigorous and strong in the day between the two attacks.

No swelling of the maxillary glands.

No difficulty in swallowing.

Died from asphyxia.

DIPHTHERIA.

The duration in this case was five days.

Fever reaching 105° on the second day.

Some fetor of the breath.

Membrane on the tonsil and in the nose.

Expectoration of ropy saliva, and discharges from the nose.

A sister convalescing from diphtheria in the same room

During the attack was peevish, and had all the appearance of one suffering from a low form of fever, such as dry-coated tongue, sordes, anorexia, &c.

Swelling of the maxillary glands.

Difficulty in swallowing.

Died from asthenia.

There were evidences in these two cases which made it plainer than an inadequate description could make it, that they had nothing in common but the mechanical obstruction of the air passages. We can readily understand how a mistake might be made in diagnosis between laryngeal diphtheria and croup on the spur of the moment; but we can see no good reason why in describing the diseases that they should not be made pathologically distinct.

Dr. H. H. KANE, of 366 Bleeker St., New York, will be pleased to receive written or printed items about the use of morphia, hypodermically. Due credit will be given to his correspondents, but names of patients will not be used except by consent of the correspondent. Dr. Kane is collecting material on this subject.

REVIEWS AND BOOK NOTICES.

INFANT FEEDING AND ITS INFLUENCES ON LIFE, OR THE CAUSES OF INFANT MORTALITY. By C. H. F. ROUTH, M. D., M. R. C. P. L. Third Edition. Pp. 270. William Wood & Co., 27 Great Jones St. New York.

No questions give the general practitioner more daily concern, than the proper nutrition of infants. Every day old errors are to be combatted, and correct teaching inculcated, in the innumerable paragraph sermons delivered by them in the sick-room. Every book, therefore, which tends to a more enlightened view of the subject is welcomed.

This work deals first with the statistics of infant mortality and viability.

The causes of infant mortality are considered *first* as to the want of breast-milk, which the author thinks is not so great as generally represented, but which he recognizes as great, and the evil effects of artificial feeding. In many cases under the latter head, the food supplied acts little better than a slow poison; of this the author treats when he speaks about alumnized bread and vegetables fed to infants.

He lays it down that animal food is required for some time after birth, and draws the analogy between the lower order of animals and man, showing that even in granivorous animals the food for the first few days is animal food, or vegetable food so semi-digested in, or intermingled with, the animal fluids, that for all purposes it may be regarded as animal food.

The Second Part of the work treats of Lactation, and wet nurses, and kindred topics. The amount of milk estimated to be secreted by a healthy mother for a year is 1000 pounds.

Defective lactation is treated hygienically and medically.

Deductions in reference to alimentation made from the composition of milk and its substitutes, comprise the Third Part of the work. Under this head are discussed the relative value of the different animal milk, and such substitutes as cream, dessicated milks, eggs, bone soups, and jellies, beef-teas, raw meats, &c., &c.

There is very much that is useful for a doctor to know in this volume, and indeed it would be criminal neglect for one to give

advice about infant dietetics who know less, and he who knows more and can influence mothers to follow his advice is a lucky fellow.

The volume costs *only a dollar* to regular subscribers!

MEDICAL CHEMISTRY, Including the Outlines of Organic and Physiological Chemistry. Based in part upon Riche's *Manual de Chimie*. By C. GILBERT WHEELER, Professor of Chemistry in the University. Second and Revised Edition. Pp. 424. Wm. Wood & Co. New York. 1880.

Not only medical chemistry, but chemistry in all its bearings is neglected by medical students. Nor is the student the only one to blame, (though he deserves and should get his share of it), for the confusion incident to a rapidly progressive science has not been successfully overcome by many writers on the subject.

The book before us is based upon Riche's *Manual*, and will be well received by those who have prepared themselves in general chemistry. It is written in a comprehensive manner, and the writer has skillfully incorporated items of useful and entertaining knowledge into the usually forbidding text of such works.

Evidently light is dawning in this benighted and confused region of science, and as the teachers devote themselves to making medical chemistry attractive, the students will consider it of more importance to undertake to master it, and in the meantime the colleges and medical examining boards are demanding better preparations in this direction.

Few medical men, though, will share the enthusiasm of at least one chemist, who sets forth that "upon the successful pursuit of the study of animal chemistry, all medicine rests."

Chemistry has not been looked upon with any such favors by practicing physicians of late years, nor has it deserved to be esteemed in so eminent a degree because of pathological and physiological revelations made, although the whole profession is willing to give its universal meed of praise for the acquisitions to our *materia medica*.

The author adds, "animal chemistry finds no advocates at our Universities and public schools, and is not made a part of the curriculum; it is professedly taught, however, at our medical schools, but if one

takes the trouble to inquire into the teachings, one is rudely shaken in their belief. What is really taught is not animal chemistry, but a certain number of facts."*

This stricture is not applicable to Professor Wheeler for his work is entitled to a high rank among the text-books for medical students, and is destined to supplant many American rivals at present in use.

REGULATIONS FOR THE GOVERNMENT OF THE UNITED STATES MARINE HOSPITAL SERVICE. Approved by the Secretary of the Treasury, Nov. 10th, 1879. Washington: Government Printing Office. 1879. Pp. 146.

The way in which the U. S. Marine Hospital Service has been managed, makes a notice of this pamphlet, designed only for the instruction of the officers of the service, of interest to the profession at large.

"The Marine Hospital Service is the medical department for the mercantile marine of the United States. It was established in 1798, and is charged with the duty of preserving the health interests of the officers and seamen employed on American vessels engaged in the foreign, coastwise and inland commerce. The original object of the establishment of the service was to encourage fit persons to become seamen by making provision for their care when sick or disabled." The expenses of the establishment are met by the hospital dues assessed and collected from every seamen, at the rate of forty cents a month.

It is, therefore, a provident association under the charge of government officers, furnishing relief to a large number of persons, at a rate far below that paid for similar service, not only in any department of the general government, but of State or municipal governments.

In the provisions of this service, an admirable system of outdoor relief is furnished to officers and men entitled to it, but who are not sick enough to enter the hospital as patients.

Every year demonstrates the vigor and economic management of this service, and the whole country is under obligations to it for the initial movement in national sanitary matters.

*Kingzett's Animal Chemistry, p. 15.

THE THROAT AND THE VOICE. By J. SOLIS COHEN, M. D. American Health Primer. Philadelphia: Lindsay & Blakiston. 1879. Price 50 cents.

This is the most interesting of the very valuable primers of this series. The average of our patients know less about the air tracks of the body than of any other part, and they know little enough of any part. This little book teaches many a useful lesson, which having been acquired by the general reader, would make them easier to treat successfully by the doctor. We hope these books will find their way into every family in the land.

WALSH'S HANDY LEDGER. Published by RALPH WALSH, M. D., 326 C. Street, Northwest. Washington, D. C. By mail, \$3.00.

This is the handiest and completest system of accounts for physicians we have seen. It will save time and money for any physician who uses it. The notorious slackness with which doctors keep their accounts has now its effectual remedy in the adoption of Walsh's Handy Ledger.

CHICAGO MEDICAL GAZETTE. E. C. Dudley, M. D. Editor and Publisher. Volume 1, Number 1. January 5th, 1880.

This is a new bi-monthly journal added to the list of excellent journals already in the great North-West. It is to be issued on the 5th and 15th of each month. It gives promise of boldness of opinions and independent criticism. It is well printed, and has all the attractions necessary to make it a popular enterprize. Subscription, \$2.00 a year.

A NEW GERMAN SURGERY—A new work on surgery entitled **DEUTSCHE CHIRURGIE** is being published in parts, at Stuttgart. The Editors are Professor Billroth, of Vienna, and Professor Lücke, of Strasburg, and the contributors are all eminent writers. Prof. Recklinghausen treats of disturbance of the circulation and of nutrition; Professor Kaposi, of syphilis; Prof. Burns, of fractures; Prof. Volkmann, of diseases of the bones and joints; Prof. Lücke, diseases of the thyroid gland, and Billroth, those of the mamma; Esmarch, diseases and injuries of the anus and rectum; Prof. Nussbaum, diseases of the abdomen; Prof. Maas, diseases of the kidney and bladder and Prof. Olshausen, diseases of the ovaries.

We may expect, therefore, a great surgical work.

CORRESPONDENCE.

TARBOROUGH, N. C.,

December 1st, 1879.

Editors of North Carolina Medical Journal:

On the 16th day of September last, I was sent for to see a negro man, Willis C., living on the farm of Mrs. C. I was informed on my arrival, that he was having chills, and upon examination, found that he was suffering from intermittent fever. I immediately prescribed the sulph. quinia, and in order to prevent another chill, it was necessary to administer a full dose. I weighed twenty grains of quinia, and added ten drops of elix. vitriol and water q. s. After preparing the above, I was requested by the man to examine his wife, who was at the time, sitting in a chair. I found her pulse 120 per minute, and weak, temperature 102°, respirations 25. In fact, from the history of the case, my diagnosis was typhoid fever. I prescribed for this patient, R. Elix. vitriol, gtts. 15, Quinia sulph. grs. ii., in wine glass of water every six hours, and ordered milk toddy and chicken tea every two or three hours, and left to return the next day. Soon after I had gone, the nurse, instead of administering the solution of quinia to the husband as directed, gave it to his wife, and she died within one hour afterward.

She did not seem in any immediate danger when I left her. My opinion in regard to this case is, that owing the weak condition of the heart, the amount was too much, and it paralyzed the heart, which produced death.

Did the quinia cause her death, or did it not?

Will some member of the profession answer the question?

E. TRAVIS SPEED, M. D.

Apomorphia in Asthma.—One-tenth of a grain of apomorphia introduced hypodermically will relieve the orthopnoea of asthma in a surprisingly short time. It will be well if our readers will add this to their list of "remedies."

LITHOTOMY BY J. M. LYLE, M. D.

FRANKLIN, MARION COUNTY, N. C.,

November 13th, 1879.

Editors N. C. Medical Journal:

This operation, the first that has been performed in any of these far western counties, was done skillfully, successfully, and in good time, in Franklin, on the 23d of October, on the person of Canada Henderson, a citizen of this community, 81 years of age, in which were removed nine *calculi* of considerable size and tenacity.

The operation was performed by Dr. Lyle, our worthy Superintendent of the Board of Health, who invited all the resident physicians of the county to be present, with which they cheerfully complied rendering him all the assistance required—one only being necessarily absent.

The patient is now doing well, at the end of three weeks, notwithstanding his great age.

Reported by

H. G. WOODFIN, M. D.

BROWN-SEQUARD'S ANTI-EPILEPTIC MIXTURE.

We have been asked to reprint Brown-Séquard's formula for epilepsy, but would like to remark in doing so that the doctor that relies on this bit of polypharmacy has hardly gone very deep into the art of therapeutics.

The formula is as follows :

℞. Sodii bromidi, 3 3.
 Potassii bromidi, 3 3.
 Ammonii bromidi, 3 3.
 Potass. iodidi, 3 1½.
 Ammon. iodidi 3 1½. 3 1½.
 Ammon. carbonatis, 3 1.
 Tinct. calumbæ, fl. 3 1½.
 Aquæ, q. s. ad fl. 3 8.

Mix. Adult dose: one and a half drachms, before each meal, and three drachms at bed-time.

THE NEW ORLEANS SANITARY AUXILIARY SOCIETY.

We have from time to time received the pamphlets issued by this very active and useful society, and take this opportunity of commending their work to southern sanitarians.

This Society as its name implies is auxiliary to the regular legal health establishments, working within limits of its own devising, soliciting and expending donations for the prevention and introduction of diseases dangerous to the public health. The society works under a charter, which they recommend to all the towns in the State, to further the work of sanitary progress.

One of their pamphlets entitled "The Evil and the Remedy for the Privy System of New Orleans," brings forcibly and practically before the public the value of the dry-earth system, showing the details of its management, and the items of expenditure. It is clearly shown that a system could not only be made self-sustaining, but that it could be made a source of income.

The "Report on Milk and Dairies in the City of New Orleans," rehearses the evils of impure and adulterated milk, and shows the possible statutory remedies.

The public had as well listen now to these voices of warning going up all over the land from the disinterested sanitarians, for the siege of ignorance will not end until a complete triumph is effected.

Accurate and Delicate Process for the Toxicological Detection of Arsenic.—(PROF. SELMI.) The method is that of Schneider, modified so as to incur no losses. The substance to be examined is to be treated with hot concentrated sulphuric acid, and during the same time is traversed by a current of hydrochloric acid gas, which carries with it all the arsenic in the state of chloride, separating it from the organic substance with which it was mixed. The arsenical liquid is then placed in a Marsh's apparatus and tested in the usual manner. The author has been thus able to obtain the metallic ring on operating upon 100 grms. of animal matter containing 1-400th of a milligram of arsenious anhydride. The author criticises the process of Gautier, which answers for recent matter, but should not be adopted if the subject is putrid or mummified.—*Atti dei Lincei in Chem. News.*—*New Remedies.*

AMERICAN PUBLIC HEALTH ASSOCIATION.

The Seventh Annual Meeting of the American Public Health Association was held in Nashville, Tenn., commencing at 12 o'clock, noon, on the 18th ult., and continued in session four days. Nearly two hundred members were in attendance, and the proceedings were generally harmonious throughout the session..

President J. L. Cabell, M. D., of the University of Virginia, presided, 1st Vice President, J. S. Billings, U. S. A., and 2d Vice President, Samuel Choppin, of New Orleans, sitting upon his right and left, while Dr. E. H. Janes, of New York, Secretary of the Association, occupied the clerk's desk.

After an appropriate prayer by Rev. O. P. Fitzgerald, editor of the Nashville *Christian Advocate*, and the reading of the list of members so far as they had been registered, the subject of the National Medical Library was taken up, and the committee appointed to memorialize Congress in regard to the publication of the index catalogue of the library made its report. It was shown in the report, that as a result of the memorial and personal efforts of the committee, Congress appropriated \$20,000 for printing and binding the first and second volumes of the Library of the Surgeon General's office: the report recommended that the committee be continued, with instructions to urge upon Congress the necessity for providing for the completion of the work.

In adopting the order of business as laid out by the Executive Committee, it was resolved that, after the leading paper on each subject was read, all discussion should be limited to ten minute speeches.

Dr. E. M. Hunt, of New Jersey, Chairman of the Publication Committee, reported that the publication of last meeting's transactions was unavoidably delayed, but would soon be forthcoming. Adjourned until 3 P. M.

AFTERNOON SESSION.

On reassembling, Colonel George E. Waring, of Newport, Rhode Island, read a paper upon "The Drainage and Sewerage of Cities," taking the position that there should be a distinct separation between the application of sewerage to the removal of domestic and manufacturing wastes and soil water, and the construction of conduits for the protection of public and private property against the action of storm water—the one a sanitary and the other an engineering measure. He believed that waste pipes should not be over 6 inches in diameter, until the contents at highest rate of flow half filled the pipe; that the sewage was better carried off in small pipes, and that it could be more readily utilized for agricultural purposes if not mixed with storm water, besides being much cheaper

to construct, and easier to ventilate. He thought that perfect sanitation was more important than quarantine, as, by such measures, yellow fever would not be capable of coming into a city. He regarded this disease a minor one, and stated there were others more fatal, but which were equally preventable by proper sanitation.

A discussion of the subject was participated in by Drs. Ames, of Boston; Wight of Milwaukee; Compton, of Evansville, Ind.; A. N. Bell, of New York; Elisha Harris, of New York; Ezra M. Hunt, of New Jersey; E. Lloyd Howard, of Baltimore; Col. T. S. Hardee, of New Orleans; Dr. Tadlock of Knoxville; and Dr. Gibon, of the Navy.

Invitations were received by the Association to visit Belle Meade (Gen. Harding's stock farm, near Nashville), the Young Men's Christian Association rooms and library, and Ward's Female Seminary; and the "freedom of the wires" was tendered members of the Association by J. Compton, Esq., the Superintendent of the Western Union Telegraph Company.

The Association adjourned until 7:30 P. M.

EVENING SESSION.

In the evening Gov. A. S. Marks delivered a welcoming address to the Association and was followed by Dr. E. M. Wight, President of the Tennessee State Medical Society, on behalf of that Society. The Mayor of the city, Thomas Kercheval, Esq., also delivered an address of welcome, after which Dr. Cabell, the President of the Association, delivered his annual address, which was an exhaustive exposition of the organization and trials and hopes of the National Board of Health. This concluded the first day's proceedings.

SECOND DAY.

The Association met at 10 A. M., President Cabell in the Chair. Proceedings were opened with prayer, after which a list of new members was read and approved; an invitation to visit the residence of Mrs. Jas. K. Polk, between 1 and 2 P. M., was accepted.

The first paper of the day was prepared by Elliott C. Clark, Civil Engineer, of Boston, and read by Dr. Folsom, of that city, in the absence of Mr. Clark, the subject being "City Scavengering at Boston." The paper explains, at length, the plan adopted, which includes the removal of house effects, ashes and dry-house dirt; cleaning of streets, and street catch basins, and cleaning of privy vaults and cesspools; for each of these a special and separate provision is made at a total cost of \$340,000, for a population of 300,000 souls. The work devolves upon a committee of five members of the City Council, who control the annual appropriation and its expenditure. The Superintendent of the work is appointed by the Board of Health, and approved by the Mayor, and the system

has been found to work well, the secret of success being that very few changes are made in the Superintendent and those who do the labor. All the men employed are fitted for it by long training, the foremen having been promoted from subordinate positions, and many of the laborers having been employed for five, ten and twenty years.

Dr. Hugh M. Thompson, of New Orleans, read a paper on the "Disposal of Garbage of New Orleans," showing that while in former years it was used to fill up vacant lots, it is now carted on to scows and carried two miles down the river, where it becomes food for fishes.

The foregoing papers were discussed by Drs. Ames, of Boston ; Brewer, of New Haven ; Bell, of New York ; Campbell, of Augusta ; Barr, of Abingdon, Va. ; Col. Waring, of Rhode Island ; Drs. Wight, of Milwaukee ; Otterson, of Brooklyn ; Hunt, of New Jersey ; Durgin, of Boston ; Thompson, of New Orleans ; Harris, of New York ; Taury, of Baltimore ; and Folsom of Boston. The question of utilizing the garbage, etc., being the point at issue.

"Municipal Sanitation," by Dr. E. G. Janeway, and read, in part, by Dr. Janes, Secretary of the Association, came next in order. It suggested, with reference to construction of dwellings, that plans be filed, with application for license to build, and that the kind of material, nature of ground to be built upon, treatment of exterior of foundations, plans of plumbing, drainage, etc., should be stated. Reference was made to a new law in New York, requiring the inspection of tenement houses ; also provision in regard to the building of future houses, etc. Referring to facts in the study of contagious diseases, Dr. Janeway regards limited observation dangerous, and attaches more value to isolated cases in country places than large numbers in crowded cities ; he thinks it quite important to have a uniform system for collecting and publishing health statistics, and referring to the death rate, said that irregularities occurred from estimating the population, or from basing it upon the last census. A number of resolutions were offered in this paper, for adoption, looking to uniformity in health statistics, but no action was taken.

Adjourned until 3 P. M.

AFTERNOON SESSION.

Upon reassembling, Dr. A. L. Gibon, U. S. N., read a paper upon "The Protection of the Innocent and Helpless Members of the Community from Venereal Diseases, and their Consequences." The subject was ably presented and brought out considerable discussion, which was participated in by Dr. Sternberg, of the Army ; Bajlhache, of the Marine Hospital Service ; and Gibbs, Campbell, and others ; at the conclusion of which a motion was made by Dr. J. M. Keller, of Arkansas, that the President appoint a committee

of three to prepare a plan for protection against venereal diseases. Adopted.

The subject of certain amendments to the Constitution was then brought up by the Executive Committee, in a report, wherein it was resolved by said committee that the Association reject the proposed amendments, and that an Advisory Committee, of which the President of the Association shall be Chairman, be nominated by the Executive Committee, for appointment by the President, to be confirmed by the Association; this committee to be constituted of one member of the National Board of Health, one from each State, [Board of Health, one from each State not having a State Board of Health], and one from the medical department of the Army, Navy, and Marine Hospital Service. This resolution was adopted, after striking out that portion included in brackets.

Dr. Hunt announced that he had received the published volume of the transactions at Richmond.

Adjourned.

· EVENING SESSION.

Dr. Alfred A Woodhull, U. S. A., who was unable to attend, presented, through Dr. Hunt, an elaborate paper on the subject, "May not Yellow Fever originate in the United States," and giving an etiological study of the epidemic at Savannah in 1876. Dr. W. claims that this epidemic did unquestionably originate in Savannah, and was not traceable to importation. He brings forward many ascertained facts, and supports his argument in a most elaborate manner, and to the entire satisfaction of those who believe in the endemicity of this disease. Even a synopsis of the paper would occupy more space than this report contemplates.

Dr. T. J. Tyner, of Memphis, followed, with an interesting paper on the "Etiology of Yellow Fever in Memphis, and Remarks on Quarantine," in which he took the position that "yellow fever originated in Memphis and other cities of America, *de novo*; or, admitting that it is an exotic, I believe its spread is absolutely dependent upon some local condition;" and he believed that quarantine could only be enforced by martial law. A lively discussion of the above two papers followed, in which Drs. Early, of Kentucky; Hayes, of Florida; Wise, of Memphis; and Stillwell, of Kentucky, ranged themselves on the side of endemicity; and Drs. Elliott, of Savannah; Austin, of New Orleans; Campbell, of Augusta; and Bell, of New York, took the ground it was an exotic; and each side proved its position by a multitude of evidence and incontrovertible facts!

Adjourned.

THIRD DAY.

The Association was called to order at 9:30 A. M., President Cabell in the chair.

After prayer by Rev. T. G. Jones, a list of new members was read and approved.

The election of officers of the Association for the ensuing year was then entered upon, and resulted in the choice of the following gentlemen :

President.—John S. Billings, United States Army.

First Vice-President.—Samuel Choppin, of New Orleans.

Second Vice-President.—R. C. Kedzie, of Lansing, Michigan.

Treasurer.—J. B. Lindsley, of Nashville.

Executive Committee.—Drs. C. B. White, New Orleans; J. L. Cabell, Virginia; E. M. Hunt, New Jersey; J. D. Plunkett, Tennessee; C. F. Folsom, Massachusetts; A. L. Gihon, United States Navy.

Dr. Cabell subsequently declined, and Dr. J. G. Thomas, of Savannah, was elected to fill his place on the Executive Committee.

While the election of officers was in progress, Dr. Wm. H. Brewer, President of the State Board of Health of Connecticut, read a paper upon "Rotten Wood," and gave an account of some experiments made upon various kinds of wood, showing the amount of soluble matter they contained, and the effect of decaying wood upon health.

Invitations for the next meeting of the Association were received from Evansville, Ind., and New Orleans; the latter was accepted, the date to be fixed by the Executive Committee.

The following committee was appointed by the Chair, to devise and suggest some plan for the control of the spread of venereal diseases, and report the same at the next meeting: Drs. A. L. Gihon, W. R. Griffith, J. M. Keller, Sternberg and P. H. Bailhache.

Dr. J. D. Plunkett, President of the State Board of Health of Tennessee, read a paper upon "Cotton as a Fomes," in which he took the ground that it was capable (ginned or unginned) to absorb or imbibe pestilential virus, and gave the names of many prominent authorities on the subject, adding that "the recognition of cotton as one of the class of extra hazardous fomites is well nigh universal, as its capacity to transmit or communicate yellow fever, or other infectious diseases, has, up to this time, scarcely been questioned."

Dr. G. B. Thornton, President of the Memphis Board of Health, read a very interesting paper upon the "Memphis Yellow Fever Epidemic of 1879." After stating that the question of importation or of local origin of the disease is not definitely settled by the resident profession, and adding that he is unable to satisfy himself as to the date and exact locality of the first case, he goes on to say that in every previous epidemic no trouble exists in tracing it to importation. He then gives a history of the epidemic, and of the condition of the city, doubting the prevailing opinion that the vaults, etc., gave virulence to the disease, and rather favoring the idea that it was the result of last year's visitation.

Adjourned until 7:30 P. M., there being no afternoon session, as the Association had accepted an invitation to visit Belle Meade.

EVENING SESSION.

Dr. Henry F. Campbell, of Augusta, Ga., read a paper on the "Yellow Fever Quarantine of the Future," and stated, while he at first disliked the idea of a national or "central" quarantine, yet he now believed it to be imperatively demanded, and that a national quarantine against yellow fever was the quarantine of the future.

A discussion of the paper followed, participated in by Drs. Holliday, of New Orleans; Dake, of Nashville; Thornton, of Memphis; Rauch, of Chicago; Thompson, of Memphis; Bell, of New York; Waterfield, of McKenzie; Harris, of New York; Hargis, of Pensacola; Clapp, of Memphis; Taney, of New Orleans; Hunt, of New Jersey; and Peters, of New York.

The discussion took a very wide range, covering not only the question of quarantine, but all known and some unknown theories of contagion, infection, etc., and only proved, as was stated by Dr. Taney, of New Orleans, that, "from the earliest time to the present day, there has been no progress made in positive knowledge, or anything settled in regard to yellow fever and how to quarantine it."

Adjourned.

FOURTH DAY.

The Association was called to order at 10 A. M., President Cabell in the chair.

After prayer by Rev. F. A. Shoup, the list of new members was read and approved.

The Treasurer's report was referred to an Auditing Committee, composed of Drs. Smith, Bell, and Elliott.

The following papers were read by their titles, and referred to the Publishing Committee: "Post-mortem Examinations and their Relations to Public Health," by Dr. E. G. Janeway, of New York; "Action of Vegetable Acids on Tin," by Prof. Chas. E. Monroe, U. S. N.; "Water Supply," by J. Chandler, of Memphis; "International Quarantine," by Dr. B. W. James, of Philadelphia; "The Most Effective Way of Preventing the Spread of Venereal Disease," by the same; "On Sanitation of Nashville," by J. B. Lindsley, M. D.

Dr. R. G. Jennings, of Little Rock, read a paper on "Quarantine and its Results in the State of Arkansas, in 1879," in which he gave a history of the precautions taken, and concluded by saying that "no other inference can be drawn but that a thorough system of quarantine, rigidly enforced, guarantees a certain degree of protection, if not exemption, of the people from the visitation of yellow fever, proportionate to the vigilance of the officers and guards who are charged with the enforcement of its regulations."

Dr. D. C. Holliday, of New Orleans, made a report from the Committee of the New Orleans Medical and Surgical Association

on the subjects submitted by the Executive Committee of the Public Health Association, covering the points: 1. How to deal with a city in the yellow fever zone; 2. How to prevent the importation of a first case; 3. How to deal with a first case; 4. The duty of local boards to report such cases, even though doubt exists as to diagnosis; 5. Relative to moving unacclimated population from an infected place; 6. Measures of isolating dangerously infected places; 7. Organizations for relief and treatment of the sick; 8. Measures of preventing spread of the disease by railroads, including management of transfer stations; 9. Inspection of steamboats, and should stations be established by the National Board of Health? 10. Result of the coöperation given by said Board. The report was satisfactory to the Association and very flattering to the National Board.

Col. John F. Cameron, of Memphis, read a paper upon "Camps and Depopulation of Memphis, Epidemics of 1878-9," giving a description of the camps, and the manner of conducting them.

Dr. A. N. Bell, of New York, read a paper upon "Steamboat Inspections," illustrating his remarks with drafts of the holds of various kinds of vessels, and showing how the filth collected between the "ribs" of the vessels, from the keelson to the deck.

A number of preambles and resolutions were then presented by the Advisory Committee, eulogistic of the National Board of Health.

The subject of yellow fever at New Orleans in 1879, and the enforcement of quarantine, were discussed, during which Dr. Jerome Cochrane suggested the following "problems of yellow fever." 1. That yellow fever was the product of specific poison. 2. That the poison was something introduced into the person. 3. That it was material. 4. That it could be carried from place to place and give rise to outbreaks of fever where it had previously existed.

President Cabell announced the appointment of the Advisory Committee, as follows:—

Alabama, R. D. Webb. California, Dr. Henry Gibbons. Florida; Hon. S. C. Cobb. Pensacola. Georgia, Dr. H. F. Campbell. Illinois, Dr. J. H. Rauch. Indiana, Dr. J. F. Hibberd. Mississippi, Dr. Wirt Johnston. Louisiana, Dr. D. C. Holliday. Maryland, Dr. James A. Stuart. Massachusetts, Dr. Azel Ames. Pennsylvania, Dr. Henry Hartshorne. Ohio, Dr. T. C. Minor. Missouri, Dr. Homan, of St. Louis. Rhode Island, Dr. E. M. Snow. Tennessee, Judge J. W. Clapp. Virginia, Dr. L. S. Joynes. Michigan, Dr. H. B. Baker. West Virginia, James E. Reeves. District of Columbia, Dr. J. M. Toner. New York, Dr. Elisha Harris. North Carolina, Dr. Thomas F. Wood. South Carolina, Dr. C. W. Chamberlain. New Hampshire, Dr. L. F. Conn. Vermont, Dr. H. D. Holton. Texas, Dr. Rutherford. Wisconsin, Dr. E. L. Griffin. Minnesota, Dr. C. N. Hewitt. New Jersey, Hon. L. Lilly. Arkansas, Dr. A. L. Breysacker. Kentucky, Dr. Pickney Thompson.

Delaware, Dr. Bush. United States Army, Dr. McParlen. United States Navy, Dr. R. F. Gibbs. National Board, Dr. Stephen Smith. Commissioner of Education, General Eaton.

Adjourned.

AFTERNOON SESSION.

The Treasurer's account were reported correct by the Auditing Committee, and turned over to his successor.

The conflicting theories of quarantine and the isolation of Yellow Jack occupied the afternoon session, and the most diverse opinions were expressed. Hon. E. E. James, of Chattanooga, covered the subject, when he said: "From the conflicting opinions of the many gentlemen so distinguished in medical and sanitary science, I have been convinced that yellow fever is epidemic, endemic, exotic and indigenous, foreign and domestic, climatic and anti-climatic, national and international; and so believing, I am in favor of that government having the longest purse and greatest power taking charge of it."

Adjourned.

EVENING SESSION.

The committee appointed last year to distribute money to the widows and orphans of physicians who died during the epidemic, reported that no action had been taken, as no cases requiring relief had been brought to their notice, but that Dr. Peters, of New York, had collected and distributed money in that direction. Dr. Peters stated he had acted as agent of the Medical Association of New York, and that a considerable sum had been distributed, but that the Society did not wish to become the head centre and distributor of such a fund, but desired each State should look after its own needs.

The discussion of the resolutions laudatory of the National Board of Health, offered at the morning session, consumed the remainder of the evening, and were finally adopted, after which the usual resolutions of thanks were passed, and the Association adjourned, to meet in New Orleans at a date to be announced by the Executive Committee.

The following are the preamble and resolutions referred to:—

WHEREAS, The National Board of Health has, in accordance with the law which created it, requested the advice of the American Public Health Association regarding the form of a permanent national health organization of the United States, including its relations to quarantine, both maritime and inland, and,

WHEREAS, The opinions of the Advisory Council of the Association, upon the subject of health legislation, collected and presented to this body through Dr. J. M. Toner, Chairman of the Council, have been duly considered; therefore,

Resolved, 1. That in the opinion of the American Public Health Association, the present National Board of Health has been of such vast service to the country that it is not expedient to make any essential change in its organization, and that any minor improvement in details should be left to the Board itself.

2. That the investigations which have been commenced by the Board, are approved and should be continued, and that similar investigations should be undertaken by it into the consideration and prevention of other diseases, as well as yellow fever.

3. That Congress should appropriate sufficient funds to enable the Board to employ the best talent and apparatus in such scientific and practical inquiries.

4. That the operating of the existing quarantine law, and of the rules and regulations prepared by the National Board of Health on that subject, have accomplished great good, and that no change in the law should be made without the most careful and serious consideration.

5. That in the opinion of this Association, the execution of the quarantine laws of the United States should be under the direction of the National Board of Health and of an Executive Committee to be selected by that body.

6. That this Association has no suggestions to make with reference to any amendments to existing legislation in regard to quarantine, preferring that they should come from the National Board of Health, as the most competent body to advise whatever may be best.

7. That it is expedient for the National Board of Health to call an international congress for the discussion of the very important subjects of international sanitary quarantine, etc.

8. That it is the duty of the general government to build, equip, and conduct, at the mouth of the Mississippi river, a quarantine station, at such a place as may be designated by the National Board of Health.

9. That the Secretary of this Association be instructed to forward to the National Board of Health a certified copy of these resolutions, together with the reports and documents of the Advisory Council, and that the Executive Committee be instructed to take such action, during the next session of Congress, as may seem best suited to promote legislation in accordance with these resolutions.

Dr. Folsom also read the following resolutions, but said that as the points contained in them were included in those of the Advisory Committee, they were not recommended for adoption :

By Judge J. W. Clapp, of Memphis :

WHEREAS, The appearance of yellow fever as an epidemic in Memphis, Tenn., during the last two summers, has created an apprehension that the ill-fated city may continue to be visited by this scourge, the effects of which extend far beyond the infected locality, and assume national importance, not only as regards the public health and safety, but as affecting our inter-State commercial relations ; Therefore,

Resolved, That this Association recognize the fact that the sweeping epidemics which have occurred in Memphis during the past two summers have been of such a character that they are no longer local in their bearings, but *national*; therefore, it is respectfully urged upon Congress the early consideration of measures looking to the prevention of similar epidemics at that point.

By Dr. Gibbs, U. S. Navy: Be it resolved by the American Public Health Association, that it shall be the duty of the National Board of Health to designate for the information of the President of the United States, such foreign ports as shall, by said Board, be deemed infected, in the sense that all vessels arriving from the same into the seaports of the United States, shall be subject to quarantine laws. The previous sanitary history of said foreign ports, based upon consular and other information, shall be considered by the National Board of Health, in designating such infected ports or localities.

Be it further resolved, that it shall be the duty of the President of the United States, upon being so advised by the National Board of Health, to cause a general proclamation to issue in which a list of such ports and localities shall be declared infected in their commercial relations with the seaports of the United States for a period of six months, viz.: from the first day of May until the first day of November.—*Medical and Surgical Reporter*.

LIMITATION AND PREVENTION OF DIPHTHERIA. By R. L. PAYNE, M. D. Raleigh: P. M. Hale, and Edwards, Broughton & Co., State Printers and Binders. 1879.

This is the Third of the series of health tracts issued by the North Carolina Board of Health. It was written by a member of the Board who has had large and valuable experience in diphtheria. He is prepared to say by actual experience in his own person that diphtheria is contagious, and his advice as to preventive measures should be made familiar to every householder in the State.

The State Board relies upon every doctor in the State to aid in the distribution of these tracts, and we are sure that the readers of the JOURNAL will not need to be advised of the value of the lay teaching.

This, together with the other tracts issued, can be had on application to either member of the Board, or to the Secretary.. If the packages ordered are to be sent by mail, the postage must be sent, and as many tracts will be sent as the postage will cover.

CURRENT LITERATURE.

TRANSACTIONS OF THE MASSACHUSETTS MEDICO-
LEGAL SOCIETY. Volume I. Number 2. 1879. Cambridge :
Printed at the Riverside Press. 1879. Pp. 138—xii.

The Massachusetts law abolishing the offices of coroner, and substituting therefor a corps of Medical Examiners, is the foremost step yet taken in this country towards effecting a reform in medico-legal examinations.

So far it has proven to be economical, and an aid to the demands of justice and law. We have not been unobservant of the careful work which has been done by these examiners, and we are confident that a great reform must accrue from this step in the judicial codes of other States.

The pamphlet before us contains several excellent papers. The first is by Medical Examiner, S. W. Abbott, M. D., on "The Evidence of Still Birth." He sums up the evidence that a child has lived during and after the birth, as follows :

1. When the diaphragm reaches only the fifth intercostal space.
2. When the lungs more or less completely fill the thorax.
3. When the ground color of the lungs is broken by insular marblings.
4. When, by careful experiment, the lungs are found to be capable of floating.
5. When a bloody froth exudes from the cut surfaces of the lungs on slight pressure.
6. When the air cells are visible to the naked eye.

These proofs as complete as they are, may be strengthened by the cicatrization of the umbilicus, the scaling of the epidermis, the closure of the foetal ducts, the size of the osseous nucleus of the inferior femoral epiphysis, the existence of milk, sugar, starch or medicines in the stomach, determined by the appropriate chemical tests, and by the presence of faecal matter other than meconium in the lower intestines.

"A Medico-Legal Case of Abortion, followed by the Conviction of the Accused Abortionist," by Medical Examiner, J. C. Gleason, M. D., is well-worth careful perusal. It shows conscientious and

painstaking work, in strong contrast with the perfunctory performance of a coroner's inquest.

Medical Examiner, C. C. Tower, M. D., contributes a paper on the "Clinical and Anatomical Evidences of Abortion," in which is reviewed all the current and standard opinions on the subject, and which will, no doubt, serve as a reference to the student in this branch of medical jurisprudence.

Dr. Tower thinks that: "In regard to the medico-legal value of a well-marked corpus luteum of pregnancy as an evidence of abortion, it seems to me there can be no doubt. As much weight should be attached to its existence as to that of any other single sign, unless, perhaps, the mark of the utero-placental union. * * * Evidently the weight given to the existence of a "corpus luteum depends very much upon the care with which the examining physician conducts his examination, and his ability to interpret correctly the appearance which he discovers. There is reason to believe that most of the reported cases of so-called 'true corpora lutea' in virgins, and their absence in women after delivery, are attributable either to a want of discrimination between the yellow body when dependent upon ovulation followed by conception, or to an inability to recognize that structure when imperfectly developed from any cause, or when deteriorated by changes which have taken place in it after abortion occurred."

A report "on Medical Expert Testimony: What it is and what it ought to be," by a committee consisting of Attorney General Marston, Professor H. P. Bowditch, M. D., T. H. Tindale, Esq., A. E. Pillsbury, Esq., Medical Examiner, Y. G. Hurd, M. D., and Medical Examiner, F. W. Draper, M. D., is given in full. Our quotation will serve to show how fairly the question is discussed.

* * "A knowledge of the weaknesses of the present system has permeated the whole community; and the views and opinions of professional men upon this subject have come to be so largely shared by the classes from which jurors are drawn, that it is questionable whether, even now, the production of medical expert testimony in court does not in a majority of cases fail of its object, through the inability of juries to decide, where so many doctors disagree, or their indisposition to pay heed to any, where all are equally positive and many certainly wrong. In this state of things the professional

mind is led to the conclusion either that some improvement upon the existing plan must be devised, or that in practical administration of justice, it is better to forego all benefit of scientific or special knowledge upon the subjects to which expert testimony is usually applied rather than to allow courts and juries to be confounded and misled by a mass of confused and contradictory testimony, about which we can be sure of nothing save that it is hired and paid for."

Page 127.

The remedy suggested by the committee embodied in a proposed law, which provides that in any suit in which medical expert testimony is desired by the parties, they may at any time before the trial file in the clerk's office a written agreement that such witness shall be summoned, designating him by name if agreed upon. If no person be designated by the agreement of the parties, the judge may designate a proper person learned in the science of medicine to be summoned as expert witness."

The metric system was adopted by the Society.

The Appendix gives Suggestions for Medico-Legal Examinations of Dead Bodies, being a reprint of the Scotch regulations.

THE STORY OF THE NEW REMEDY, BENZOATE OF SODIUM.

A few weeks ago there appeared in the *Wiener Medizinische Presse*, No. 37, a "preliminary note" on the use of inhalations of benzoate of sodium in phthisis. The writer, Dr. Krocak, announced that in Professor P. von Rokitsansky's clinic at Innsbruck, of which he is the assistant physician, most wonderful results had been obtained from them even in most advanced cases; in fact three such were described, in which patients with large cavities, high fever, and in a state bordering on the moribund, were discharged in a month or two as "cured," with great gain of weight, and disappearance of the physical signs of cavities. The solution of benzoate used was one of five per cent. strength, but no details as to the mode of administering the inhalation, or as to the daily

period of using it, were supplied. A few days later, private inquiries, and, later still, a letter from Dr. Krocak himself to an eager patient, elicited the information that the solution was to be inhaled as spray pulverized by a Seigle's apparatus, for an hour, morning and evening. At the same time the patient was to have plenty of fresh air, good meat (one effect of the benzoate being to greatly increase the appetite), and freedom from all depressing influences. The news of the wonderful discovery at Innsbruck spread far and wide in Vienna, and the demand for benzoate of sodium and Seigle's pulverizers soon exceeded the supply. The drug has now been largely tried not only in the General and other Vienna hospitals, but also by family doctors among the sadly numerous class of consumptives in that city, and the *Wiener Medizinische Wochenschrift*, from whose pages much of our present information is derived (see Nos. 39, 40, 41, 43, 44, 1879), affirms as the outcome of all this *furore* that all these experiments "*have failed to yield the slightest favorable result, or a trace of even the most trifling diminution of dangerous symptoms.*" (The italics are those of the paper we quote from.) On the other hand, public opinion in the Austrian medical world has become greatly excited against Professor Rokitansky, first, because he has given his silent support to what it considers the inaccurate statements of his assistant, and secondly, because it regards him as playing the part of a charlatan by taking advantage of the credulity of the lay public, and making capital out of what the doctors consider very like a swindle. This feeling of indignation has led Professor Albert, of Innsbruck, a colleague of Rokitansky, to challenge him to public demonstration of his cases before the medical profession of that town, and has even extracted a cry of "*amoveatur*," or "Let him be removed from his chair," from the editor of the *Wiener Medizinische Wochenschrift*.

Nevertheless, in spite of this outcry, there is reason for believing that inhalations of benzoate of sodium may arrest septic processes (and there is no doubt that the later stages of phthisis are accompanied with, or dependent on, septic processes) in the lungs. Dr. Schüller, of Griefswald, (*Archiv. für Exper. Pathologie*, Band xi., Heft 1, 2) has recently shown that if rabbits are rendered tuberculous by making them imbibe, through a tracheotomy wound, caseous or scrofulous matter, or the bacteria which Klebs has obtained by

cultivating infusions of such matter, the diseased process can be arrested by making the animals inhale either the benzoate solution or creasote water for a lengthened period. If two rabbits of the same age and weight are treated, the one with inoculation alone, the other with inoculation *plus* inhalation, the latter rapidly gains weight and recovers its health, the former falls away and dies. Moreover, Dr. Schüller, in a modest letter published in the *Wiener Med. Woch.*, No. 40, referring to these researches and to their application to the treatment of human phthisis, declares that we have also in Greifswald been able to convince ourselves repeatedly of the extraordinary good results of the use of the drug in men."

Lastly, there is no question that benzoate of sodium has anti-septic properties, probably dependent on its "anti-bacterial" influence. For the above reasons we prefer to suspend our judgment in this matter, and wait for a more unprejudiced investigation of the reliability of Krocak, Rokitansky, and Schüller's statements.—*Medical Times and Gazette.*

THE HAVANA COMMISSION.

Preliminary Report of the Havana Commission of the National Board of Health, submitted November 18th, 1879.

By. S. E. Chaillé, M. D., Chairman, and G. M. Sternberg, M. D.,
U. S. A., Secretary.

It will be remembered that this Commission sailed for their destination on the 3d of July, arriving in Havana on the 7th, and that the period of their investigation extended over four months. We do not think it necessary, therefore, that they should apologise for an incomplete report. We will, therefore, only point out the outline of what was done, feeling satisfied that our readers will embrace the first opportunity to acquaint themselves with the work.

The details of organization show that the commission was liberally provided with the appliances for microscopical and other work.

The first section of their report is devoted to a description of the seaports of Cuba from which shipments are made to the United

States, followed by a sketch of the history of epidemics of yellow fever in Cuba. Under the head of "Causes of Endemicity" we find the following concluding paragraph: "The whole truth has very certainly not been fathomed, but this much of it is indisputable: Wherever in Cuba a town exists which has the greatest commercial intercourse, the most numerous unacclimated population, the least exposure to the winds, and houses the most crowded together, densely inhabited and filthy, the worst ventilated and drained, there a town will be found wherein the endemic prevalence of yellow fever is most marked."

The remarks on climate in connection with the prevalence of yellow fever set forth nothing new, except an observation made "Dr. Carlos Finley, a chemist and distinguished physician of Havana," who "claims to have discovered an important correspondence between the prevalence of yellow fever and the varying degree of alkalinity of the air at Havana." Dr. Finley gives a report upon the subject in an addendum.

The specific statements of the insanitary condition of Havana, leave no room for doubt that it is shockingly bad. The water supply is poor and inadequate; the soil is badly drained; more than half of the population of Havana live on streets which are in a foully insanitary condition; the houses are not models of good construction and especially those occupied by the working classes are cheerless and comfortless, the privy being under the same roof with the kitchen, and excavation in the ground in juxtaposition to the privy receives the slop water, neither being emptied until they will hold no more, making it altogether as complete a description of domestic nastiness as we could imagine.

Although most of the sewers discharge into the bay, notwithstanding this, the water of the harbor failed to present evidence of special putridity. The salt water seemed to overcome the foulness of the sewage to a considerable degree, so that organisms usually found in filthy masses, were discovered, but dead, in the salt water. The Commission states that although the water of the bay is foul near the wharves and shores, it would be better economy to pave the streets and build stone wharves, than to attempt purification of the water.

We will not weary our readers by following the Commission

through the means suggested to make the insanitary conditions of Cuban ports satisfactory, but will hasten on to the pathological investigations which were so specially emphasized by the National Board and the Commission.

We cannot help feeling that it was a mistake to publish the barren results given on this subject. The Commission knew perfectly well that such a work must be cautiously and patiently undertaken, with the determination to cover years instead of months, and while it was not enough to make an official statement, they could expect nothing but adverse criticism would be likely to be aimed at them.

Their work in this respect has been negative.

Only two points deserve to be specially noticed. The examination of the air of yellow fever wards revealed "that certain slender glistening acicular crystals radiating from little opaque masses, which were especially abundant" in these yellow fever wards, "and in the soiled linen room of the military hospital." What gives peculiar significance to these bodies is, that they have been found in the air of infected localities in Morgan City, Centreville and Bayou Boeuf, in Louisiana, while the air of New York hospitals contained none of these acicular crystals.

The next item is given in an appended report by Charles Finlay, M. D., of the Spanish Commission, on the alkalinity of the atmosphere of Havana. His general deductions are :

- (a). The Havana atmosphere is constantly alkaline.
- (b). The alkalinity is strongly marked and increases from May to August, decreases from September to December, and remains low from January to March or April.
- (c). Even in the months of low alkalinity it now and then happens that a comparatively high figure is occasionally observed, but the general truth of the above propositions does not seem to be materially affected as regards the average and maximum curves.
- (d). In all parts of the island where the alkalinity has been tried it has been found to exist, though always inferior to that observed in the city of Havana at the same seasons of the year. The number of observations on this point is, however, too limited to warrant any general deduction.
- (e). A tendency is observed on the part of the volatile alkali of the Havana atmosphere to form acid salts whenever the acidulated

litmus contains an excess of free sulphuric acid; thereby showing the alkali to constitute a weaker basis than simple ammonia—more likely some volatile alkali of the compound ammonia type.

It must be remembered that this report is only a preliminary one. This investigation is without doubt a move in the right direction. It is certainly in good hands. It is sure to bring about good results.

GLYCERINE AS A FOOD.

Some years ago glycerine was proposed as a supplementary food, capable it was even said, of taking the place of cod liver oil in the nutrition of the invalid. The recommendation was made upon theoretical grounds; and received little confirmation from experience. Careful observations which were made, especially by the late Dr. Cotton, at the hospital for consumption, failed to show that it produced any effect on nutrition such as results from the administration of cod liver oil. The opinion was thus formed that glycerine possesses little or no claim to be regarded as a food. The question has not, however, until now, received much scientific investigation.

The effect of glycerine on the interchange of material in the organisms—i. e., its value as a food—has lately been studied by Dr. Immanuel Munk, in a series of experimental inquiries undertaken at Berlin, the results of which are published in the current number of Virchow's *Archiv*. The question is of interest not merely because glycerine has been proposed for the purposes above stated, and is occasionally administered as a vehicle for certain drugs, or to the Diabetic as a substitute for sugar, but also because it is, in one sense, a constant article of diet. It is known that fat is decomposed in part in the alimentary canal, under the influence of the intestinal mucus, into its fatty acid and glycerine, and the amount of this decomposition is at present unknown. Again, all wines contain a certain quantity of glycerine, which is one of the products of the alcoholic fermentation of sugar. Pasteur says that natural wine contain from six to eight grammes of glycerine per litre, while

Neubauer puts the amount in the same volume at seven to eleven grammes. Moreover, it has been proposed to use glycerine as a preservative agent. Munk has shown that the addition of two or three per cent. of glycerine to milk will postpone the lactic-acid fermentation for from eighteen to twenty-four hours. It is, therefore, important to know what influence is exerted by this substance in the vital processes of the toxic effect of large doses we possess (no) information; the experiments of Munk have reference to the effect of the digestion of small quantities. Whether any nutritive value can be ascribed to glycerine and what quantity may be taken without interference with the processes of the body, are the points to be considered.

Any substance introduced into the economy may influence the decomposition of material in two ways—by increasing or diminishing, on the one hand, the destruction of nitrogenous material, or the exchange of albumen, and on the other the excretion of carbonic acid and absorption of oxygen. The effect of glycerine on the latter has been already studied by Scheremetjewski. But it is to former point, the effect on albuminates, that attention must especially be directed to determine the food-value of any substance. This is indicated by the effect on the excretion of nitrogen, and in the case of man and the carnivora, the nitrogen passing away by the urine and fæces affords the necessary information. The value of the observations of Catillon on this point is lessened by the fact that the diet of the animals experimented on was not strictly regulated.

It has been found that large quantities of glycerine produce hæmoglobinuria and also diarrhœa, both of which disturb the accuracy of observation. It was necessary, therefore, to give such doses of glycerine as should not produce these effects, and in the case of dogs not to exceed twenty-five to thirty grammes daily. These quantities were found by Munk in no way to modify the excretion of nitrogen. Any influence of glycerine, at least in medicinal doses, on the exchange of albumen may thus be put aside. According to the ordinary definition of food, glycerine does not possess any nutritive value. If, however, the urine is only examined, there is found a slight diminution in the amount of nitrogen, as observed by Catillon. This is quite compensated for by the increased excretion of the bowel.

What is the fate of glycerine introduced into the economy? Is it decomposed or excreted? and if the latter in what form? When large doses are given so as to produce hæmoglobinuria, the urine contains a substance which readily reduces copper, but has been said, on the ground of its effects on polarized light, not to be sugar, but to be probably a decomposition or transformation product of glycerine. According to Plosz, moreover, it is not capable of fermentation. It is very difficult to say whether any unaltered glycerine passes away, since the detection of a small quantity in the urine is a matter of great difficulty. It seems certain, however, that the greater part, if not all, is decomposed in the organism, and that when moderate quantities only are given the decomposition is complete. It was observed by Weiss that the quantity of glycogen in the liver is increased by the administration of glycerine. From the analogy with other substances which have a similar effect, such as albumen, gums, &c., Munk suggests that glycerine absorbed from the intestines and carried by the portal vein to the liver, is not itself transformed into glycogen, but rather, by its quick decomposition, limits the use of, the liver glycogen, or furthers its formation from other materials. However this may be, the glycerine undergoes decomposition without its products having any influence on the changes in albumen, such as the carbo-hydrates, but it is rather to be regarded as an alcohol—the tertiary alcohol of the propyl series.

The solubility of glycerine renders it highly probable that the greater part of that which is taken into the stomach passes rapidly into the blood. A small part may be unabsorbed, and in the lower part of the intestine may undergo fermentation and reduction, with the formation of butyric acid, &c., although this decomposition can take place only in the neutral liquid—a condition not easy to obtain in the intestine. Gorup-Besanez has also shown that, in the alkaline solution, the action of oxygen in active state breaks glycerine up into formic, proprionic, and perhaps acrylic acids. There is some probability that, in the tissues, where similar conditions obtain, the same decomposition may occur, and the intermediate products, proprionic and formic acids, may be further oxydized to their ultimate products, carbonic acid and water. Scheremetjewski showed that the ingestion of glycerine causes an increase in excretion of carbonic acid, which Chatillon has affirmed may

amount to seven per cent. This increase in the production of carbonic acid must be accompanied by the liberation of its equivalent of heat, and so the generation of heat should be increased by the administration of glycerine. Hence, there is the highest probability that glycerine may be of service in this respect, but that it is of no value as a tissue-food.—*London Lancet*.

THE MEDICAL COLLEGES.

It is rather interesting reading we are getting just now in our various exchanges on the status of the different colleges. We, in North Carolina where there are no medical colleges to claim our interests and affections, look with considerable equanimity upon the heated opinions of which the long-term editors have of the short-term editors, and conversely. What is it gentlemen that you find so sweet and delicious in the business that causes you to slash at each other so constantly about? It can hardly be money, for doctors are notoriously indifferent to filthy lucre! Can it be the honor of teaching a school of boisterous, inattentive students? It cannot be that, for school-teaching was always considered drudgery! Can it be that in making friends of these young fellows, that they act as feeders to your consulting rooms? This would be a slow way to fortune! Just for the sake of the honor of being a Professor of this or that in the Medical Department of the University of — is it? Well we give it up, and hope you will quit quarelling, for to our rural mind it looks like the medical family was going all to pieces. You certainly confuse us in your arguments beyond any hope of extrication.

A propos to the subject of Medical Colleges we have received the 97th Annual Catalogue of the Medical School of Harvard University, and looked first for the "examination papers." Now! that strikes us as the way to do it. We say give it to them! These young fellows ought to be ready to answer this and a lot more before they come in our side of the fence. There are already too many consumers for the size of the crop. Strain them, strain the rowdy

students through a fine gauze net, and give us old fellows a living chance. And when we get hold of them in North Carolina we are going to strain them over again, just as they make fine window-glass rosin in this country. We are for a higher standard!
(for all those out of the ring.)

Sir Thomas Watson, M. D., on Animal Vaccination.—On the subject of vaccination with bovine virus, the eminent London physician, Sir Thomas Watson, writes to the *Pall Mall Gazette*: "Several letters have lately appeared in the *Times* newspaper, respecting what is called animal vaccination. In one of the numbers of the *Nineteenth Century* vaccination on and from the calf was earnestly advocated by me, as carrying with it the potential extinction of the only valid objection that can be alleged against vaccination in general; and justifying, therefore, the needful compulsion of vaccination by force of law. The anti-vaccination party have attempted to enroll me among the writers who have adopted their views. I ask leave, therefore to inform you and your readers that my sole object has been, and is, to prove by vaccination, properly and universally effected, the hideous, disfiguring, dangerous, and in a majority of cases fatal distemper, small-pox, may with certainty be extirpated from this country—I might say from this world."—*Medical and Surgical Reporter*.

Battey's Operation in Germany.—Dr. Schücking (*Centralblatt für Gynäkologie*, den 27 Sept., 1879,) performed Battey's operation on a woman 37 years of age, the mother of six children. The grounds for the operation were marked hysteria, epileptic attacks, metrorrhagia, with painful menstruation and trismus. Bromide of potassium, iron, massage, baths, valerian, morphia, chloral hydrate, rubbing in tincture of iodine over the region of the ovaries, and the administration of Fowler's solution, were ineffectual. It was, therefore, resolved to operate. The ovaries were removed through an abdominal incision, and the pedicles secured with a catgut. The Listerian method was employed in all its details. The spray was 2½ per cent. solution of carbolic acid. Hardly a drop of pus was present in the wound on the tenth day after the operation. The recovery was rapid and the result of the operation most gratifying. The abdominal pain, the uterine bleeding, the cataleptic attacks, the trismus and other symptoms had vanished. The patient now feels well and healthy. Microscopical examination of the ovaries gave no positive results, scarcely any discernible pathological changes having taken place.—*London Medical Record*.

MEDICAL ANNOTATIONS.

Supra-Pubic Lithotomy in a Female Child.—At a recent meeting of the London Pathological Society a case of supra-pubic lithotomy was reported. Crushing was attempted but the lithotrite would not "bite" on it. The stone was removed, and was found to be composed of phosphates collected around a hair-pin, the points of which were protruding from the calculus, and had wounded the bladder, causing abscess.

Our esteemed friend, Dr. J. J. Summerell, Superintendent of Health, of Rowan County is moving vigorously towards the improvement of the sanitary condition of Salisbury. Mayor Ramsay is seconding his efforts, and has given notice that if after ten days the sanitary regulations are not carried out, the penalties of violated ordinances and State laws will be imposed upon all who fail to comply. What are other towns doing?

Animal Vaccination.—It looks a little odd to us in America to see with what warmth it is necessary for the British medical journals to treat the subject of animal vaccination, in order to make a favorable impression. The *Medical Times and Gazette* has a very good article on the subject (November 29th) and points out the great advisability, and the absolute necessity of a State supply of animal vaccine, to meet sudden and large demands for vaccine lymph, and to remove the only reasonable objection against humanized virus—the possibility of inoculating syphilis.

We have gone quietly through the great reformation in vaccine practice in this country, and but very few care to give the proper credit to the reformer. In fact, some do not even know that we owe a deep debt of gratitude to Dr. Henry A. Martin, of Boston, for his hard and earnest work, and his final triumph against all opposition in the establishment of animal vaccination.

Diphtheritic Hyperæmia.—"A very rare form of diphtheritic hyperæmia without exudation," [known to so many of our friends who having been nursing diphtheria, as the nurse's sore throat] "but in which the sequelæ of diphtheria occur, is occasionally seen in those who have been in attendance on diphtheritic patients. It is important to note that this form is confined almost exclusively to adults."—Lennox Browne's "Throat and Its Diseases," p. 171.

The Value of Ether in Combination with Cod Liver Oil.—The Committee of the New York Therapeutical Society make the following report:

1. The addition of ether to cod liver oil about the proportion of fifteen minims to each half ounce (or an equivalent amount of compound spirits of ether) will succeed in the vast majority of cases in enabling the patient to take the oil, even though it previously disagreed.

2. That in some cases in which the oil still disagreed after the addition of ether, the difficulty may be overcome by giving the ether separately from fifteen minutes to half an hour after the oil is taken.

The Physiology of Sweating.—Sweating can be induced by reflex action, and also in a very marked and singular manner by jaborandi, and by the active principle of that drug—pilocarpin. In from three to five minutes after the subcutaneous injection of a solution of hydrochlorate of pilocarpin, in man, the flow of saliva increases, perspiration appears, first on the head, and then gradually over the whole body, and lasts about an hour, or, if the patient be in bed, for two or even three hours. This effect, Luchsinger thinks to be due to the pilocarpin acting as a direct stimulant to the nerve centres. He tied the abdominal aorta in a cat, and then injected pilocarpin into a vein. Under these conditions the pilocarpin was unable to reach the glands in the posterior extremities, and thus to act as a direct stimulant; nevertheless the feet were soon bathed in sweat. Atropin inhibits the secretion of sweat, for if after the injection of one one-hundredth of a gramme of pilocarpin, three one-hundredths of a gramme of atropin be injected, the commencing perspiration is arrested in about ten minutes. If now a hundredth of a grain of pilocarpin be injected into one of the feet, beads of sweat burst forth on this foot; but the rest of the body being still under the influence of atropin remains dry.

An acid reaction is generally attributed to this secretion, but Luchsinger and Truempy have ascertained that in man as well as in the cat the reaction is really alkaline, and that the acidity which has been observed is due to the fact that the secretion of the sebaceous glands is ordinarily acid, or rather becomes so in the action of decomposition to which it is prone.—*London Lancet.*

OBITUARY.

EDMUND STURDWICK, M. D.

We have space merely to announce the death of the venerable Edmund Sturdwick, M. D., at his home in Hillsborough. The January JOURNAL will contain a biographical sketch written by an intimate friend.

FREEMAN J. BUMSTEAD, M. D., LL. D.

We are pained to see the death of Dr. Bumstead-announced in the New York medical journals. He died on the 28th of November, aged 53 years. He is best known to American physicians as the author of a work on Venereal Diseases, a work that has been the text-book and guide of general practitioners in this country for fifteen years.

Dr. Bumstead's talents were of a versatile character, for although we only knew him prominently as a syphilographer, he was an ophthalmic surgeon as well.

We notice that Prof. Eaton and Prof. Meehan both refer to his discoveries of new ferns in their beautiful works on "Ferns and Flowers," indicating that he had the cultivated tastes of a botanist.

Dr. Bumstead will be sincerely mourned by the medical profession in the South.

J. FRANCIS KING, M. D.

Dr. J. Francis King died in New York city, December 11, 1879, in the 48th year of his age.

Dr. King was a native of Beaufort, N. C. After obtaining his degree in New York, he settled in Washington, N. C., where he soon took a leading stand as a practitioner, and through his great energy and industry, and devotion to his patients, he acquired in a marked degree for so young a physician the confidence and respect of the community.

When the war came on he joined the army as a Regimental Surgeon, and was highly esteemed by both officers and men. After remaining about two years in the service he resigned and went to Tarborough, where having remained a short while and his wife having died, he finally removed to this city early in the Fall of 1864.

Dr. King soon exhibited those qualities here that had previously marked him out for a successful and popular professional career.

In the practice of medicine he was careful and cautious in his diagnosis, kind and gentle in his demeanor in the sick room, full of resources, and free from ostentation.

In the department of surgery Dr. King evinced a superior order of talent; he was a diagnostician of accurate judgment and a skilful operator.

He was the readiest of experts in an emergency, adapting means to ends under the most trying and dangerous circumstances, and never for a moment losing his self-possession.

Dr. King was kind and true in all his family relations, and never a man had stronger or more devoted friends. He was almost idolized by many of his patients.

The unusually large attendance at the last sad rites evinced the estimation in which he was held by all classes of his fellow-citizens.

Dr. King married again a year or two after the war Miss Neilson, of New York.

An excellent physician, a good citizen, a true friend hath gone from among us.

W. W. L.

ANALYSIS OF A CIGAR.

To the world in general a cigar is merely a tightly-rolled packet having brittle fragments of dry leaves within, and a smooth, silky leaf for its other wrapper. When it is burnt, and the pleasantly-flavored smoke inhaled, the habitual claims for it a soothing luxury that quiets the irritable nervous organism, relieves weariness, and entices repose. Science, scouting so superficial a description, examines first the smoke, second the leaf, third the ash. In the smoke is discovered water in vaporous state, soot (free carbon), carbonic acid and carbonic oxide, and a vaporous substance condensable into oily nicotine. These are the general divisions, which chemists have still further split up, and in so doing have found acetic, formic, butyric, valeric, and proprionic acids, prussic acid, creosote and carbolic acid, ammonia, sulphuretted hydrogen, pyridine, viridine, pidoline, lutidine, collodine, parvoline, corodine, and rubidine. These last are a series of oily bases belonging to the homologues of aniline, first discovered in coal tar. Applying chemical tests to the leaves, other chemists have found nicotia, tobacco, camphor or nicotianine (about which not much is known), a bitter extractive matter, gum, chlorophyll, malate of lime, sundry albuminoids, malic acid, woody fibre and various salts. The feathery white ash, which in its cohesion and whiteness is indicative of the good cigar, yields potash, soda, magnesia, lime, phosphoric acid, sulphuric acid, silica, and chlorine. The ingredients extractible from a poor and cheap cigar, would be fearful and wonderful to contemplate. Here is a list from a Parliamentary Report on adulterations in tobacco: Sugar, alum, lime, flour or meal, rhubarb leaves, saltpetre, fuller's earth, starch, malt comings, chromate of lead, peat moss, molasses, burdock leaves, common salt, endive leaves, lampblack, gum, red dye, a black dye composed of vegetable red and liquorice, scraps of newspaper, cinnamon stick, cabbage leaves and straw brown paper.—*The Cartéer*—*The Sanitarian*.

Have you paid your subscription for 1879 ?

BOOKS AND PAMPHLETS RECEIVED.

Case of Incomplete Vitilligo. By J. Edmondson Atkinson, M. D. Reprint from the Archives of Dermatology.

Some Phases of Cerebral Syphilis. By J. Edmondson Atkinson, M. D. Reprint from Trans. Med. Society of Virginia.

Annual Report of the Commissioner of Agriculture for the year 1878. Washington: Government Printing Office. 1879.

Annual Report of the Board of Health of the Births, Marriages, and Deaths in the City of Richmond, Va., for the year 1878.

Oesophagismus Completely Cured by the Passage of a Sound. By J. J. Henna, M. D. Pp. 12. Reprint from Hospital Gazette.

The Evil and the Remedy of the Privy System of New Orleans. New Orleans Auxiliary Sanitary Association. 1879. Pp. 20.

Etiologie et Pronostic de la Glycosurie et du Diabète Par Le Docteur Jules Cyr. Paris. V.—Ad. Deluhaye et Cie. Paris. 1879.

An Address from the Auxiliary Sanitary Association of New Orleans, to the other cities and towns in the Mississippi Valley. New Orleans. 1879. Pp. 20.

Address delivered before the New Orleans Auxiliary Sanitary Association. By John H. Rauch, M. D., President Illinois Board of Health. New Orleans. 1879. Pp. 13.

Transactions of the Mississippi State Medical Association. Vol. xii. Aberdeen, Mississippi. 1879. Pp. 209. Jackson, Miss.: Clarion Steam Printing Establishment.

Report of the Board of Directors and the Medical Superintendent of the Central Lunatic Asylum. (For Colored Insane). Virginia. Fiscal year 1878-79. Richmond: R. E. Frayser. 1879.

The Physicians Daily Pocket Record, comprising a Visiting List, and many useful memorandas, tablets, etc. By S. W. Butler, M. D. Edited by D. G. Bampton, 115 South Seventh St. Philadelphia, Pa.

Report on Milk and Dairies in the City of New Orleans, Presented to the New Orleans Medical and Surgical Association. Published by the Auxiliary Sanitary Association. New Orleans. 1879. Pp. 16.

Some Important Topical Remedies and their use in the Treatment of Skin Diseases. By John V. Shoemaker, A. M., M. D. Philadelphia: Reprint from Transactions of Medical Society. State of Pennsylvania.

Limitation and Prevention of Diphtheria. By R. L. Payne, M. D., North Carolina Board of Health. Pp. 10. P. M. Hale and Edwards, Broughton & Co, Printers. 1879. FOR GRATUITOUS DISTRIBUTION.

The Radical Cure of Hernia by the Antiseptic Use of the Carbolyzed Cat-gut. Ligature. By Henry O. Marcy, A. M., M. D. Cambridge, Massachusetts. Reprint from Trans. Am. Medical Association. 1878.

W. J. H. Bellamy, M. D.	Wilmington, N. C.
Frank Duffy, M. D.	Newberne, N. C.
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Charles Duffy, Jr., M. D.	" "
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I. Wellington Faison, M. D.	Fulton, N. C.
D. McL. Graham, M. D.	Wallace, N. C.
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Thomas F. Wood, M. D.	Wilmington, N. C.
Wm. R. Wood, M. D.	Scotland Neck, N. C.

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felt the want of a reliable preparation of ergot, which should be free from the serious drawbacks so largely met with in the preparations offered under the guise of extracts, ergotines and fluid extracts.

Many of these preparations contain deleterious ingredients, which exert a disturbing and dangerous influence in the frequently grave emergencies where ergot is resorted to. Others, again, have features objectionable in either requiring some previous preparation to fit them for administration, or are not possessed of needed keeping qualities, tending to deterioration in time or to become unsightly on standing. Inferior material and defective methods are largely responsible for this misrepresentation of a really excellent drug.

Our desire has been to supply the want referred to, and to that end we have undertaken a series of experiments to decide upon a method of extraction, which should be selective in its character, so that all the desirable properties of the drug should be represented in our preparation, to the exclusion of those which produce dangerous and unwished-for results.

Chemical analysis and physiological experimentation have been laid under contribution to bring about this result, so that we could offer a tried remedy, with the consciousness of having exerted our best efforts towards lightening the labors of the physician, and placing in his hands a worthy weapon in combating disease.

The preparation which we submit under the above title is characterized by uniformity of ingredients, constancy of strength and freedom from those properties which are exerted solely in disturbing the healthy functions, without a corresponding beneficial result.

It will be found a faithful representative of all the desirable properties of ergot, which tend to accelerate labor and assist nature's protracted efforts, while it is superior in its application to other uses of this drug.

Our method of preparation in its general features consists, first in determining the value and constituents of the very best obtainable fresh ergot, selected from a large number of samples.

Having once ascertained the maximum value, and adopted this as a standard, each succeeding parcel of our "Liquor Ergotæ Purificatus" is made to conform to this strength, so that the active principle of sixteen Troy ounces of such standard ergot would be represented by sixteen fluid ounces of our finished preparation.

The constituents of ergot represented in this preparation are: ecbinol, ergotin, scleromucin, sclerotic and ergotin acids, with others of minor value, such as sclererythrin (the red coloring matter) etc.

We have rejected those principles which long experience has demonstrated to provoke undesirable action, such as resin and fixed oil, alcoholic extractive, with cholesterolin and ergotinina, to the latter of which has been assigned, with good cause, an unenviable reputation as a disturbing and even poisonous agent.

We desire to lay particular stress on the value of this liquid for administration hypodermically. As this method of medication can be depended on to produce much speedier results than by the mouth, it is a desideratum which has been borne in view to furnish in this an ever ready concentrated and non-irritant preparation.

We would urge physicians to give a trial, take advantage of the improvements which scientific methods have placed at their disposal, and avoid the disappointments inevitably resulting from the employment of unskillfully prepared extracts of indeterminate strength.

When prescribing Ergot, specify Parke, Davis & Co.'s "Liquor Ergotæ Purificatus."

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THE BUFFALO LITHIA WATERS



TRADE MARK—PATENTED.

*For Diuresis of the Uric Acid Diathesis; especially
Gout-Rheumatic, Gouty Rheumatism, Stone or Gravel.*

—o—

DR. HORATIO C. WOOD

*Professor of Materia Medica &c., in the Medical Department of
the University of Pennsylvania, in the Medical Times*

July 20th, 1878.

"The Water of Buffalo Lithia Springs, of Mecklenburg County, Virginia, was brought to our notice by a Baltimore Physician who had been relieved by its use of some very troublesome and alarming symptoms, believed to be due to an inherited Gouty Diathesis. Trial in one or two cases of inveterate Chronic Gout has afforded much satisfaction to us, free diuresis being provoked and followed by relief of symptoms."

—

*Dr. Harvey C. Byrd, of Baltimore, formerly Professor of Ma-
teria Medica and Therapeutics, and of Principles
and Practice of Medicine.*

[Extract from letter dated Baltimore, November 11th, 1879.]

"My acquaintance with the Therapeutical properties of the Buffalo Lithia Waters extends over several years and to a large number of cases in this City, and also to a season as Resident Physician at the Springs. As a consequence of this long experience and observation, I feel that in what I am about to say in regard to the properties and action of Spring No. 2, will be verified by all those giving the Water a fair trial in the diseases hereinafter named, as well as in analogous or kindred conditions

of the organism. I have witnessed the best results from the action of this Water in Chronic Gout, Rheumatic Gout, Rheumatism, Gravel and Stone of the Bladder and I do not hesitate to express the opinion that in all diseases depending upon or having their origin in the Uric Acid Diathesis it is unsurpassed, if indeed it is equalled by any Water thus far known to the profession."

*Dr. Hunter McGuire, Prof. Surg. Med. College of Virginia; Ex-
President Association of Medical Officers Confed.
Army and Navy one of the Vice-Presidents of the International Medical Congress.*

"I have used the Buffalo Lithia Waters in cases of old Rheumatic Gout, which had resisted the ordinary remedies, with wonderfully good results. I have myself suffered a great deal lately from this malady. The Lithia Water certainly does me more good than anything else I have used—of all the Mineral Waters of the country. I regard these as one of the most valuable."

Dr. J. S. Wellford, Professor of Materia Medica in the Virginia Medical College.

[Extract from Letter dated Richmond, Va., Sept. 3, 1879.]

"I have paid a great deal of attention to urinary troubles, and have frequently and freely prescribed the Lithia Water in their treatment with the very best results. In all the various forms of Uric Acid Diathesis, whether as well-formed Gravel or Gout, or in the milder forms of Gouty Dyspepsia or Nettlerash in their various varieties, I know of no mineral water which I consider at all equal to that of Spring No. 2."

Extract from the Letter of the late Dr. Thos. P. Atkinson, Ex-President State Medical Society, of August 15, 1874.

"No more remarkable results were ever accomplished by any therapeutic agent than by the Buffalo Lithia Waters, Spring No. 2, in Rheumatic Gout and Rheumatism. I have been a visitor both to these Springs and to the celebrated Hot Water resorts of the country, and the result of my observation leaves me little doubt but that the Lithia Waters relieve a larger percentage of sufferers from these maladies than the Hot Waters. In Gravel, of uric acid origin, the Lithia Waters are well nigh specific, and the same may be safely said as to their efficacy in all irritable conditions of the Kidneys and Bladder.

These Waters, in cases of one dozen, half gallon bottles, \$5.00 per case at the Springs.

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Sample supply sent free to any physician desiring to test in his practice. Address A. M. DAVIES, Pres't of Co., 78 Main St., Lynchburg, V. Liberal Terms to Druggists. Prices, Mass 50 cents and \$1.00 packages sent post-paid. Mass in Sugar-Coated Pill form, 25 cents, 50 cents, \$1 per box, sent post paid. Water \$4.50, case, of 1 doz. $\frac{1}{2}$ gallon bottles; \$2.25 for 5 gallon cask; \$4.00 for 10 gallons; \$7.00 for 20 gallons, and freight from Lynchburg.

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BELLEVUE HOSPITAL MEDICAL COLLEGE,

CITY OF NEW YORK.

Sessions of 1879 and 1880.

THE COLLEGIATE Year in this Institution embraces a preliminary Autumn Term, the Regular Winter Session, and a Spring Session.

The Preliminary Autumnal Term for 1879-1880 will open on Wednesday, September 17, 1879, and continue until the opening of the Regular Session. During this term, instruction, consisting of didactic lectures upon special subjects and daily clinical lectures, will be given, as heretofore, by the entire Faculty, in the same number and order as during the Regular Session. Students expecting to attend the Regular Session are recommended to attend the Preliminary Term, but such attendance is not required.

The Regular Session will begin on Wednesday, October 1, 1879, and end about the 1st of March, 1880. During this Session, in addition to four didactic lectures on every weekday except Saturday, two or three hours are daily allotted to clinical instruction.

The Spring Session consists chiefly of recitations from Text Books. This Session begins on the 1st of March and continues until the 1st of June. During this Session daily recitations in all the departments are held by a corps of examiners appointed by the faculty. Short courses of lectures are given on special subjects, and regular clinics are held in the Hospital and in the College building.

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FORDYCE BARKER, M. D.,
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AUSTIN FLINT, M. D., Professor of the Principles and Practice of Medicine and Clinical Medicine.	A. A. SMITH, M. D., Lecturer on Materia Medica and Therapeutics, and Clinical Medicine.
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Fees for Tickets to all the Lectures during the Preliminary and Regular Term, including Clinical Lectures.....	\$140 00
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Dissection Fee (including material for dissection).....	10 00
Graduation Fee.....	30 00

FEES FOR THE SPRING SESSION.

Matriculation (Ticket valid for the following Winter).....	\$ 5 00
Recitations, Clinics, and Lectures.....	35 00
Dissection (Ticket valid for the following Winter).....	10 00

For the Annual Circular and Catalogue, giving regulations for graduation and other information, address Professor Austin Flint, Jr., Secretary, Bellevue Hospital Medical College.

OFFICE OF

TROMMER EXTRACT OF MALT CO

FREMONT, OHIO.

FREMONT, OHIO, APRIL, 1878.

DEAR SIR :—

It is now five years since we first introduced and began the manufacture of Extract of Malt in the United States. It has been our aim to furnish the medical profession in America with a malt-extract equal to the best German make, and (by saving the expenses of importation), much cheaper than the foreign article can be afforded. For the manner in which our efforts have been appreciated by the medical profession, we desire to express our warmest thanks.

The difficulties attending the manufacture of Extract of Malt in large quantities, can be overcome only by that kind of skill which is acquired by experience. Its constituents must receive no injury by the process, and good flavor and keeping quality, adapting it to all climates, must characterize the product. All are familiar with the striking difference between certain celebrated brands of ale and porter—and yet the poorest as well as the best, is, or should be, produced from barley, malt and hops. Success greatly depends, of course, upon the employment of none but the best material; but it is by the use of specific and long-tried procedures that results are obtained which are so difficult to rival.

We do ourselves but simple justice, in stating that our *entire attention* is, and for many years has been, *exclusively* devoted to the manufacture of Extract of Malt for medicinal purposes, and that we give our undivided personal attention to each step in the process by which Extract of Malt of excellent quality can alone be made.

Under these circumstances, it is unreasonable to suppose that the various manufacturers of fluid extract, elixirs, pills, &c., who (attracted by the high reputation of our Extract of Malt), have recently, in various sections of the country, undertaken the manufacture of a similar article, should generally succeed in producing it of a quality according with the fulsome praise with which their advertisements are filled.—

While being perfectly willing to let the reputation of Extract of Malt rest upon its real merits, we owe it to the medical profession, as well as to ourselves to give warning against imposition.

It has come to our knowledge that certain articles extensively advertised as "pure" and "genuine extract of malt," are composed chiefly of the substance called GRAPE SUGAR or MALTINE, which, as is well known, is the product of the action of sulphuric acid upon starch subjected to a high temperature. This artificial grape sugar or glucose is extensively manufactured from corn starch, is now being used in immense quantities, instead of ordinary cane sugar, in the sophistication of confectionery, sugar-house syrup, "strained honey," native wines, and canned fruits, and by some brewers in the manufacture of beer and ale. The cheapness of this artificial product of Indian corn, constitutes the chief inducement for this species of substitution for barley malt and cane sugar.

Again, an extract of malted grain is manufactured for the purpose of obtaining *diastase*, which, (simple and variously combined) is much used in medicine. The appearance of the extract is but slightly changed by being deprived of this important constituent, although, it is unnecessary to add, that its value as a medicinal agent is thereby greatly impaired. Nevertheless, this very substance, which is little more than refuse material, in the manufacture of *diastase*, is now being offered for pure malt extract.

It is *malt extract* prepared from Barley malt combined with the proper proportion of Hops, that has been for many years the standard medicinal-nutritive employed by the medical faculty of Europe, and especially of Germany. Its value has been established by experience, and its use in the treatment of almost all forms of disease of nutrition is constantly extending. We shall continue to devote the most scrupulous attention to the maintenance of the reputation of our malt extract, by the careful selection of material and by unwearied personal attention to manufacturing extract from Ziemssen, and also to our circular and testimonials elsewhere printed.

Very Respectfully,

TROMMER EXTRACT OF MALT CO.

From ZIEMSEN'S CYCLOPEDIA OF THE PRACTICE OF MEDICINE,

Vol. XVI, page 474:

"The Malt Extract prepared from Trommer's receipt is designed to fulfil much the same purpose as Cod-liver oil, carbo-hydrates (malt-sugar, dextrin,) taking the place of fatty matter. The simple (much or little hopped) and Chalybeate form of Malt Extract are coming more and more into favor as substitutes for the oil; they are more palatable and more easily digested, and should therefore, be preferred in the dyspeptic forms of anæmia. During the last few years Malt Extract has almost entirely taken the place of Cod Liver Oil in the treatment of phthisis, and other wasting diseases at the Basle hospital, and we have as yet found no reason for returning to the use of the latter remedy. The Extract may be given from one to three times a day in doses varying from a teaspoonful to a tablespoonful in milk, broth, beer or wine."

Trommer's Extract of Malt.

The rapidly increasing demand for our Improved Extract of Malt, during the four years that it has been manufactured and offered to the medical profession in America, justifies the belief that in its production here we are meeting a generally felt want.

Long experience in manufacturing Malt Extract has enabled us to completely overcome the many difficulties attending its manufacture in large quantity; and we positively assure the profession that our Extract of Malt is not only perfectly pure and reliable, but that it will keep for years, in any climate, without fermenting or molding, and that its flavor actually improves by age. Our extract is guaranteed to equal in every respect, the best German make, while, by avoiding the expenses of importation, it is afforded at less than half the price of the foreign article.

The Malt from which it is made, is obtained by carefully malting the very best quality of selected Toronto Canada Barley. The Extract is prepared by an *improved process*, which prevents injury to its properties or flavor by excess of heat. It represents the soluble constituents of Malt and Hops, viz: Malt Sugar, Dextrine, Diastase, Resin and Bitter of Hops, Phosphates of Lime, and Magnesia, and Alkaline Salts.

Attention is invited to the following analysis of this Extract, as given by S. H. Douglas, Professor of Chemistry, University of Michigan, Ann Arbor.

Trommer Extract of Malt Company:—I enclose herewith my analysis of your Extract of Malt:

Malt Sugar, 46.1; Dextrine, Hop Bitter, Extractive Matter, 23.6, Albuminous Matter (Diastase), 2.469; Ash—Phosphates, 1.712; Alkalies, .377; coater, 25.7. Total, 99.958.

In comparing the above analysis with that of the Extract of Malt, of the German Pharmacopœa, as given by Hager, that has been so generally received by the profession, I find it to substantially agree with that article.

Yours truly,

SILAS H. DOUGLAS,

Prof. of Analytical and Applied Chemistry.

This invaluable preparation is highly recommended by the medical profession, as a most effective therapeutic agent, for the restoration of delicate and exhausted constitutions. It is very nutritious, being rich in both muscle and fat producing materials.

The very large proportion of Diastase renders it most effective in those forms of disease originating in imperfect digestion of the starchy elements of food.

A single dose of the improved Trommer's Extract of Malt, contains a larger quantity of the active properties of Malt, than a pint of the best ale or porter; and not having undergone fermentation, is absolutely free from alcohol and carbonic acid.

The dose for adults is from a dessert to a tablespoonful three times daily. It is best taken after meals, pure, or mixed with a glass of milk, or in water, wine, or any kind of spirituous liquors. Each bottle contains ONE and ONE-HALF POUNDS of the Extract.

Our preparations of Malt are for sale by Druggists generally throughout the United States and Canadas, at the following prices:

EXTRACT OF MALT, With Hops (Plain),	-	-	-	1 00
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" " " " Cod Liver Oil and Phosphorous	-	-	-	1 00
" " " " Hypophosphites	-	-	-	1 50
" " " " Iodides	-	-	-	1 50
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℞ Phosphori, 1-50 gr.; Quiniæ Sulph., $\frac{1}{2}$ gr.; Pulv. Digitalis, $\frac{1}{2}$ gr.; Pulv. Opil, $\frac{1}{4}$ gr.; Pulv. Ipecac., $\frac{1}{4}$ gr.

Dose.—One or two pills may be taken three or four times daily, at meals.

THERAPEUTICS.—This combination is especially valuable in cases of consumption, accompanied daily with periodical febrile symptoms, quinine and digitalis exerting a specific action in reducing animal heat. Digitalis should, however, be prescribed only under the advice of a physician.

12.—PIL. PHOSPHORI CUM DIGITAL. CO. [Warner & Co.]

℞ Phosphori, 1-50 gr.; Pulv. Digitalis, 1 gr.; Ext. Hyoscyami, 1 gr.

Dose.—One pill may be taken three or four times in twenty-four hours.

THERAPEUTICS.—The effect of digitalis as a cardiac tonic renders it particularly applicable, in combination with phosphorus, in cases of overwork, attended with derangement of the heart's action. In excessive irritability of the nervous system, in *palpitation of the heart valvular disease aneurism, etc.*, it may be employed beneficially, while the diuretic action of digitalis renders it applicable to various forms of dropsy. The same caution in regard to the use of digitalis may be repeated here.

13.—PIL. PHOSPHORI CUM DIGITAL. ET FERRO. [Warner & Co.]

℞ Phosphori, 1-50 gr.; Pulv. Digitalis, 1 gr.; Ferri Redacti, 1 gr.

Dose.—One pill, to be taken three or four times a day, at meals.

THERAPEUTICS.—This combination may be employed in the cases referred to in the previous paragraph, especially when accompanied with anæmia.

14.—PIL. PHOSPHORI CUM CANNABE INDICA. [Warner & Co.]

℞ Phosphori, 1-50 gr.; Ext. Cannabis Ind., $\frac{1}{4}$ gr.

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THERAPEUTICS.—The Indian Hemp is added as a calmative and soporific in cases in which morphia is inadmissible from idiosyncrasy or other cause, as well as for its aphrodisiac effect.

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℞ Phosphori, 1-50 gr.; Morphicæ Sulph., 1-12 gr.; Zinc. Valer., 1 gr.

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THERAPEUTICS.—Applicable in consumption attended with nervous irritability and annoying cough; in hysterical cough and neuralgia it may be given at the same time with *cod liver oil*.

16.—PIL. PHOSPHORI CUM ALOE ET NUC. VOM. [Warner & Co.]

℞ Phosphori, 1-50 gr.; Ext. Aloes Aquosæ' $\frac{1}{2}$ gr.; Ext. Nucis Vomicae, $\frac{1}{4}$ gr.

Dose.—One may be given daily at or immediately after dinner.

THERAPEUTICS.—In *atonic dyspepsia, neuroses of the stomach, hypochondria and constipation*, this combination fulfils important indications.

BE CAREFUL TO SPECIFY WARNER & CO. WHEN PRESCRIBING.

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SOLUBLE SUGAR-COATED

PHOSPHORUS PILLS.

Observe the following Trade Mark on each label as a guarantee of genuineness.



The method of preparing Phosphorus in pilular form has been discovered and brought to perfection by us, without the necessity of combining it with resin, which forms an insoluble compound. The element is in a perfect state of subdivision and incorporated with the excipient while in solution. The non-porous coating of sugar protects it thoroughly from oxidation, so that the pill is not impaired by age. It is the most pleasant and acceptable form for the administration of Phosphorus.

Specify WARNER & CO. when prescribing, and order in bottles of one hundred each when practicable, to avoid the substitution of cheaper and inferior brands.

PILLS SENT BY MAIL ON RECEIPT OF LIST PRICE.

WM. R. WARNER & CO., CHEMISTS, PHILADELPHIA.

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NEW YORK, November 11, 1877.

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Very respectfully,

A. E. McLEAN,
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40 and 42 Broadway, N. Y.

(Late of Edinburgh, Scotland.)

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"The Sugar-Coated Pills of Wm. R. Warner & Co. are Soluble, Reliable and Unsurpassed in the perfection of Sugar-Coating, thorough composition and accurate subdivision."

"The pills of Phosphorus are worthy of special notice. The element is thoroughly diffused and subdivided, yet perfectly protected from oxidation."

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DOSE.—One pill, two or three times a day, at meals.

THERAPEUTICS.—When deemed expedient to prescribe phosphorus alone, these pills will constitute a convenient and safe method of administering it.

2.—PIL. PHOSPHORI CO.

[Warner & Co.]

Rx Phosphori, 1-100 gr.; Ext. Nucis Vomicae, $\frac{1}{4}$ gr.

DOSE.—One or two pills, to be taken three times a day, after meals.

THERAPEUTICS.—As a nerve tonic and stimulant this form of pill is well adapted for such nervous disorders as are associated with impaired nutrition and spinal debility, increasing the appetite and stimulating digestion.

3.—PIL. PHOSPHORI CUM NUC. VOM.

[Warner & Co.]

Rx Phosphori, 1-50 gr.; Ext. Nucis Vom., $\frac{1}{2}$ gr.

DOSE.—One or two, three times a day, at meals.

THERAPEUTICS.—This pill is especially applicable to *atonic dyspepsia*, depression, and in exhaustion from overwork, or fatigue of the mind. PHOSPHORUS and NUX VOMICA are *sexual stimulants*, but their use requires circumspection as to the dose which should be given. As a general rule, they should not be continued for more than two or three weeks at a time, one or two pills being taken three times a day.

4.—PIL. PHOSPHORI CUM FERRO.

[Warner & Co.]

Rx Phosphori, 1-50 gr.; Ferri Redacti, 1 gr.

DOSE.—*For Adults*—Two, twice or three times a day, at meals; *for children between 8 and 12 years of age*—one, twice or three times daily, with food.

THERAPEUTICS.—This combination is particularly indicated in *consumption*, *scrofula* and the scrofulous diseases and debilitated and anæmic condition of children; and in *anæmia*, *chlorosis*, *sciatica*, and other forms of neuralgia; also in carbuncles, boils, etc. It may be administered also to a patient under cod-liver oil treatment.

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WARNER & CO.'S PHOSPHORUS PILLS.

5.—PIL. PHOSPHORI CUM FERRO ET NUC. VOM. [Warner & Co.]

℞ Phosphori, 1-100 gr.; Ferri Carb., 1 gr.; Ext. Nucis Vom., $\frac{1}{4}$ gr.

DOSE.—One or two pills may be taken three times a day, at meals.

THERAPEUTICS.—This pill is applicable to conditions referred to in the previous paragraph as well as to anæmic conditions generally, to sexual weakness, neuralgia in dissipated patients, etc.; and Mr. Hogg considers it of great value in atrophy of the optic nerve.

6.—PIL. PHOSPHORI CUM FERRO ET QUINIA. [Warner & Co.]

℞ Phosphori, 1-100 gr.; Ferri Carb., 1 gr.; Quiniæ Sulph., 1 gr.

DOSE.—One pill may be taken three times a day, at meals.

THERAPEUTICS.—PHOSPHORUS increases the tonic action of the iron and quinine, in addition to its specific action on the nervous system. In general debility, cerebral anæmia, and spinal irritation, this combination is especially indicated.

7.—PIL. PHOSPHORI CUM FERRO ET QUINIA ET NUC. VOM.

[Warner & Co.]

℞ Phosphori, 1-100 gr.; Ferri Carb., 1 gr.; Ext. Nuc. Vom., $\frac{1}{4}$ gr.; Quinæ Sul., 1 gr.

DOSE.—One pill, to be taken three times a day, at meals.

THERAPEUTICS.—The therapeutic action of this combination of tonics, augmented by the specific effect of phosphorus, on the nervous system, may be readily appreciated.

8.—PIL. PHOSPHORI CUM QUINIA.

[Warner & Co.]

℞ Phosphori, 1-50 gr.; Quiniæ Sulph., 1 gr.

DOSE.—*For Adults*—Two pills may be given to an adult twice or three times a day, with food; and one pill, three times a day, to a child from 8 to 10 years of age.

THERAPEUTICS.—This pill improves the tone of the digestive organs, and is a general tonic to the whole nervous system.

9.—PIL. PHOSPHORI CUM QUINIA CO.

[Warner & Co.]

℞ Phosphori, 1-50 gr.; Ferri Redacti, 1 gr.; Quiniæ Sulph., $\frac{1}{2}$ gr.; Strychninæ, 1-60 gr.

DOSE.—One pill, to be taken three times a day, at meals.

THERAPEUTICS.—This excellent combination of tonics is indicated in a large class of nervous disorders accompanied with anæmia, debility, etc., especially when dependent on dissipation, overwork, etc. Each ingredient is capable of making a powerful tonic impression in these cases.

10.—PIL. PHOSPHORI CUM QUINIA ET NUC. VOM. [Warner & Co.]

℞ Phosphori, 1-50 gr.; Quiniæ Sulph., 1 gr.; Ext. Nucis Vom., $\frac{1}{4}$ gr.

DOSE.—One or two pills may be given to an adult twice or three times a day, at meals; to children, from 8 to 12 years of age, one pill, two or three times a day.

THERAPEUTICS.—The therapeutic virtues of this combination do not need special mention.

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THE great necessity for a fluid food that would possess all the elements necessary for the support of the system having been long felt by the Medical Profession, we call attention to this preparation, containing the entire nutritious properties of the muscular fibre, blood, bone and brain of a healthy bullock, dissolved by aid of heat and pepsin, and preserved by spirit; thus constituting a perfect nutritive, reconstructive tonic.

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The secret of making good Cod Liver Oil lies in the proper application of the proper degree of heat—too much or too little will seriously injure the quality. Great attention to cleanliness is absolutely necessary to produce sweet Cod-Liver Oil. The rancid oil found in the market is the make of manufacturers who are careless about these matters.

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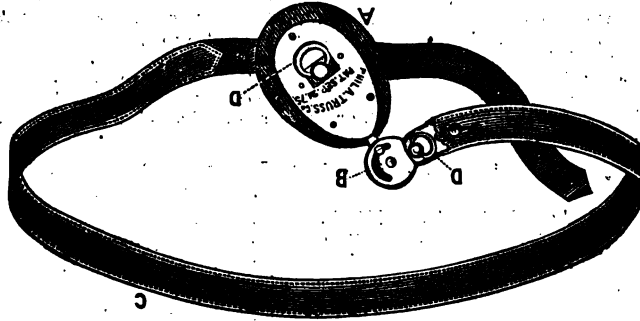
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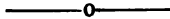
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Inventors and sole manufacturers of the "Patent Champion Truss," and Abdominal Supporters."

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In offering our Patent Champion Truss to the trade, and general public, we would respectfully state that we believe it meets all the requirements of a *perfect truss*, constantly retaining the *hernia*, therefore, offering greater advantages in perfecting a complete cure.

Great care has been taken in the mechanism and construction of the "Champion Truss" that it should wear easy, and accommodate itself to all the changes of position of the wearer, whether at labor or rest. The hernial pad retaining at the same time its proper position, and preventing the hernia from protruding. They are made light and durable; the spring being coated to prevent rust, and is covered either with leather or silk covers, pads made either of ebony or cedar woods, while the pad plates, &c., are handsomely plated on nickel, or gold plating, and the pad or swivel worn made to fit either the right or left side.

The advantages in the arrangement of this Truss were suggested after many years experimenting, and personal experience in the use of trusses, and a further proof of its efficiency and recommendation to the public is its adoption for the use of the United States Government in all its various departments, by the U. S. Board of Medical officers, after a thorough trial, examination, and comparison with the many different styles of trusses made.

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Our Patent "Champion Truss" and Patent Abdominal Supporter were the only instruments of this class that received a special award by the judges at the International Centennial Exhibition in 1876.

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In order that the profession may be enabled to obtain pure rubber bandages of a proper quality, and in view of the fact that an immense number of rubber bandages of a quality and *durability* very far from proper have been thrown upon the market, to the great detriment of the reputation of my method of treatment by the use of pure rubber bandages, I have for the present engaged in their manufacture. Every bandage supplied by me has been inspected at every step of the manufacture, is stamped with a *fac simile* of my signature, and is fully warranted of the best possible material, and made in the best possible way. In case of any defect in or dissatisfaction with a bandage, it will be exchanged, or price returned at once if desired. Bandages are sent by mail with perfect safety.

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(Stub's Wire Gauge.)

No.	Length,	10½ ft.	Width,	3 in.	Thickness,	21	...	\$2 00
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No. 2,	"	6 ft.	"	2½ in.	"	21	75
No. 3,	"	15 ft.	"	3½ in.	"	19	4 00
No. 4,	"	5 ft.	"	3½ in.	"	19	1 30
No. 5,	"	7½ ft.	"	3½ in.	"	19	2 00
No. 6,	"	14 ft.	"	3 in.	"	24	.....	2 00
No. 7,	"	14 ft.	"	3 in.	"	28	.....	1 75
No. 8,	"	21 ft.	"	3 in.	"	21	.....	4 00
No. 9,	"	12 ft.	"	2 in.	"	21	.....	1 75
No. 10,	"	15 ft.	"	2½ in.	"	21	.....	2 25
No. 11,	"	2 ft.	"	2½ in.	"	21	.....	40
No. 12,	"	2 ft.	"	3 in.	"	21	.....	50
No. 13,	"	2 ft.	"	3 in.	"	21	.....	50

Bandaging 2½ inches wide, No. 22 (Stub's gauge) thick, any length from 1 to 50 feet, at 15 cents per foot,—postage paid.

A pamphlet containing my paper from transactions of American Medical Association for 1877, the above list with notes explanatory of the special sizes, and other details, by mail, post paid, 10 cents. The above prices are the lowest charged at any time, although the price of pure rubber has advanced lately in a manner quite without precedent, Para rubber being now nearly, if not quite, three times as dear as in April last, (1879) and of course an additional incentive is offered for the manufacturers who have enriched themselves by my invention to still further adulterate the material of their "*Martin's Bandages*." Address,

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The late Dr. Geo. B. Wood, Prof. University of Pennsylvania, says :

"As a remedy in Pulmonary Consumption, Cod Liver Oil far exceeds any other."

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"Consumption when not treated with the Hypophosphites, must be regarded as almost always fatal, whereas, when used in time, every patient may be cured by use of the Hypophosphites."

CAMM'S EMULSION is composed of 65 per cent. of the purest Norwegian Cod Liver Oil combined with 9 gra. of the Hypophosphites of Lime, 4½ gra. of the Hypophosphite of Soda and 5 gra. of the Citrate of Iron to the fluid ounce, emulsified with pancreatin and not saponified as some other so-called emulsions are with an alkali.

CAMM'S EMULSION is received with great favor by the medical faculty everywhere and is prescribed by the leading physicians in this country and in Europe.

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Lynchburg, Va.

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For which he has received 21 Letters Patents for improvements rendering them superior to all others, as verified by award of First Premium at Centennial; also First Premium by American Institute from 1873 to 1879 inclusive, and, in 1875, Gold Medal.

Please note the following for which the

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was awarded by American Institute in 1875, to distinguish the Apparatus as of The First Order of Importance:

Dr. Jerome Kidder's Improved No. 1. Physician's Office Electro Medical Apparatus.

Dr. Jerome Kidder's Improved No. 2. Physician's Visiting Machine, with turn down helix.

Dr. Jerome Kidder's Improved No. 3. Physician's Visiting Machine (another form).

Dr. Jerome Kidder's Improved No. 4. Office and Family Machine.

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Report from Bellevue Hospital, New York.

In *The Hospital Gazette* for February 8th, 1879 [page 108] Dr. E. Hochheimer makes a report from **BELLEVUE HOSPITAL** of a case of Infantile Paralysis, which was followed by an exhausting diarrhoea—Speaking of the treatment, he says: "Her condition continued unchanged for the next three weeks; she was put upon a diet consisting principally of milk, but the diarrhoea persisted in spite of opiates and astringents."

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